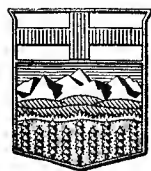


ANNUAL REPORT
OF THE
Department of Lands and Mines
OF THE
PROVINCE OF ALBERTA
FOR THE
Fiscal Year Ended March 31st
1948

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY



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1949

TO THE HONOURABLE J. C. BOWEN,
Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to submit the Report of
the Department of Lands and Mines for the fiscal
year ended March 31st, 1948.

I have the honour, to be, Sir,

Your obedient servant,

N. E. TANNER,
Minister of Lands and Mines.

Edmonton, February 25th, 1949.

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GOVERNMENT OF ALBERTA
DEPARTMENT OF LANDS AND MINES

Resulting from the transfer on October 1st, 1930, of Alberta's natural resources from federal to provincial control, the Department of Lands and Mines was on this date brought into being by the Alberta Government. The general purpose of the new Department was to be one of supervision and management of the resources in question.

Ministers of the Department, responsible at different periods for this administration, appear as follows:

Hon. R. G. Reid, appointed October 2nd, 1930;
Hon. Hugh W. Allen, appointed July 10th, 1934;
Hon. Charles C. Ross, appointed September 3rd, 1935;
Hon. N. E. Tanner, appointed January 5th, 1937.

CHIEF OFFICERS
DEPARTMENT OF LANDS AND MINES
March 31st, 1948

Honourable N. E. Tanner	<i>Minister of Lands and Mines</i>
JOHN HARVIE	<i>Deputy Minister of Lands and Mines</i>
I. N. McKinnon	<i>Assistant Deputy Minister</i>
T. C. Rankine	<i>Departmental Solicitor</i>
V. A. Wood	<i>Director of Lands</i>
F. D. Morrison	<i>Agent, Calgary Land Agency</i>
R. Cruickshank	<i>Agent, Peace River Land Agency</i>
H. H. Somerville	<i>Superintendent of Mining Lands</i>
H. Ingrey	<i>Inspector of Mining Rights</i>
T. F. Blefgen	<i>Director of Forestry</i>
E. S. Huestis	<i>Assistant Director of Forestry</i>
J. L. Janssen	<i>Chief Timber Inspector</i>
A. Earnshaw	<i>Radio Superintendent</i>
J. P. Alexander	<i>Supt. Crownsnest-Bow River Forest Reserve</i>
J. R. H. Hall	<i>Supt. Clearwater Forest Reserve</i>
D. Buck	<i>Supt. Brazeau-Athabaska Forest Reserve</i>
R. T. Mackey	<i>Chief Ranger, Cypress Hills Forest Reserve</i>
E. S. Huestis	<i>Fish and Game Commissioner</i>
D. E. Forsland	<i>Superintendent of Game</i>
H. B. Watkins	<i>Superintendent of Fisheries</i>
T. W. Dalkin	<i>Superintendent of Technical Division</i>
J. L. Crawford	<i>Chief Inspector of Mines</i>
J. W. Patrick	<i>Secretary Accountant</i>
C. B. Kenway	<i>Registrar</i>

SPECIAL AREAS BOARD

Head Office: Hanna, Alberta

M. Baldwin	<i>Chairman</i>
D. M. Graham	<i>Secretary</i>
J. R. McBeath	<i>Member</i>
J. H. Todrick	<i>Supervisor, Edmonton</i>

SPECIAL DISTRICT AGENTS

J. Pokojoy	<i>Hanna</i>
A. D. McIntyre	<i>Oyen</i>
D. J. Wilson	<i>Consort</i>
R. H. D. Marguet	<i>Lomond</i>

THE PETROLEUM AND NATURAL GAS CONSERVATION BOARD

Head Office: Calgary

I. N. McKinnon	<i>Chairman</i>
D. P. Goodall	<i>Deputy Chairman</i>
G. W. Govier	<i>Member</i>

REPORT

OF THE

Department of Lands and Mines

1947-1948

HONOURABLE N. E. TANNER,
Minister of Lands and Mines,
Edmonton.

SIR:

I have the honour to submit the eighteenth annual report of the Department of Lands and Mines for the fiscal year ending March 31st, 1948.

World shortages of materials which our province produces and high price levels have combined to make the year under review the most prosperous one in the history of Alberta.

This general prosperity is reflected in the records of your department. The net revenue on income account was \$5,050,737.39, an increase of \$1,170,311.97 over the previous year and the highest recorded in our history.

The discovery of oil at Leduc came when world petroleum reserves were at an extremely low ebb. As a result, development of known fields and exploration for new ones was carried on at an unprecedented rate. A large number of companies from the United States acquired reservations in our province and joined Canadian interests in using all the scientific devices and techniques available in an effort to locate more fields. This movement of capital from the United States was particularly welcome as it helped to alleviate the critical shortage of American dollars in this country.

The production of coal fell from 8,824,455 tons during the calendar year of 1946 to 8,074,596 tons. The value rose from \$33,197,261.00 during the previous year to \$36,317,343.00 for the calendar year of 1947. The increased value for reduced production results from the rise in price level. The railway car shortage and weather conditions were responsible for the reduction in output.

REVENUE

A surplus of \$3,681,496.80 on income account was shown for the fiscal year ending March 31st, 1948. This was an increase of \$1,020,526.11 over the previous year's surplus of \$2,660,970.69. Expenditure on income account totalled \$1,369,240.59, an increase of \$149,785.86 over that of the previous fiscal year. Net revenue was \$5,050,737.39 compared with \$3,880,425.42 for the previous year, an increase of \$1,170,311.97. Main increases and decreases were as follows:

DEPARTMENT OF LANDS AND MINES

	Increase	Decrease
GAME ACT:		
Fur Tax.....		\$ 16,189.37
LANDS AND GRAZING:		
Grazing Permits, Fees, Dues, etc.....	\$ 11,792.62	
Agricultural Lease Fees, etc.....	11,073.54	
Land Patent Miscellaneous.....	29,486.93	
MINERAL TAXATION ACT:	116,998.14	
MINING LANDS:		
Coal Fees, Rental, etc.....	9,769.13	
Coal Royalty.....		24,932.03
Petroleum and Natural Gas Fees, Rentals, etc.....	434,583.77	
Petroleum and Natural Gas Royalties.....	228,951.77	
SCHOOL LANDS:		
Miscellaneous Sale of Improvements.....		11,419.27
Interest on Sales.....		21,653.22
Timber Fees, Dues, etc.....	15,672.73	
Petroleum and Natural Gas, Fees, Rentals, etc. ..	35,745.53	
Petroleum and Natural Gas Royalties.....	36,078.17	
TIMBER:		
Timber Rentals, Fees, Dues, etc.....	279,825.74	
UNEARNED INCREMENT TAX:		20,219.64
REIMBURSEMENT OF SALARIES AND EXPENSES.....	58,272.01	
MISCELLANEOUS.....		3,524.58
NET REVENUE INCREASE.....		1,170,311.97
	<u>\$1,268,250.08</u>	<u>\$1,268,250.08</u>

LANDS ADMINISTRATION

Work was continued on the project to clear and break land for veteran settlement in the Wanham district of the Peace River Area. When the contract with Lassiter's Limited was terminated in October, 1947, thirty-five half-section units had been cleared, partially broken, and prepared for seed. Clearing operations were resumed in January under terms of a new contract with Lassiter's Limited. A contract with Mix Brothers Construction Company Limited was drawn up early in 1948 to provide for the clearing, breaking and preparation for seed of 6,400 acres. An additional 3,520 acres are covered by a contract with Peter Simonsen.

Letters were received from 245 veterans requesting land in the Wanham Area. A draw was made in August, 1947, for the first 35 farms.

New sections added to the Provincial Lands Act during the 1948 session of the legislature provided:

- (a) That any person appointed in writing by the Minister may inspect documents or records of any elevator or storage company relating to the disposition of crops grown on land leased from the Crown.
- (b) That the Minister or a person appointed in writing by the Minister may seize grain found within the Province of Alberta belonging to a lessee in default of payment of a share of the crop grown on land leased in accordance with provisions of The Provincial Lands Act.

Over \$20,000.00 overdue Cultivation and Grazing Lease accounts were collected by the Inspector of Collections while in the field. The Inspector made recommendations with regard to the renewal of Cultivation and Grazing Leases.

GRAZING

The average price paid for all grades of cattle at the Calgary stockyards from July to December, 1947, inclusive, was 10.94 cents per pound compared with 10.15 cents per pound for the same period in 1946. Consequently grazing rentals were increased in accordance with the scheme introduced in January, 1945.

Several transfers of Crown Land were arranged between the Provincial and Dominion Governments during the fiscal year. Lands formerly in the Wainwright Buffalo National Park and Nemiscam National Park were transferred to the jurisdiction of the Province. Sixteen sections of land were withdrawn from the eastern edge of Waterton National Park and handed to the Province. Also transferred to the Provincial administration was a portion of the British Block lying east of the South Saskatchewan River. An enlargement of Elk Island National Park was made possible by the transfer to the Federal Government of approximately 14,000 acres from the Blackfoot Provincial Grazing Reserve.

One of the results of these transfers has been the formation of five new grazing associations in the province as follows:

Poll Haven Grazing Association for the sixteen sections deleted from Waterton National Park.

Nemiscam Grazing Association for the lands formerly in the Nemiscam National Park.

Wainwright Grazing Association for the lands formerly in the Wainwright Buffalo National Park.

Drowning Ford Grazing Association for the lands taken from the British Block, and

Blackfoot Grazing Association for the lands formerly in the Blackfoot Provincial Grazing Reserve, which lie south of the addition to Elk Island National Park.

MINING LANDS

Further discoveries of crude oil and natural gas punctuated the record exploration and development program of the oil industry in the province during the period under review. The initial discovery at Leduc was made in February, 1947, in Devonian limestone at a depth of slightly over 5,000 feet by Imperial Leduc No. 1; Imperial Leduc No. 2 was completed in May, 1947, in an oil bearing limestone some 300 feet lower and entirely distinct from the original discovery. The horizon from which the discovery well produces is referred to as the D2 zone. That from which Imperial Leduc No. 2 takes production is called the D3 zone. Early in January, 1948, a discovery similar to the D3 zone of Leduc was made by Imperial Woodbend No. 1 in the township north of the Leduc field.

By the end of 1947, twenty-eight wells were producing oil from the Leduc area. The yield by the end of the calendar year was 372,427 barrels of fairly high gravity crude ranging from 39 to 40 degrees A.P.I.

In the Pincher Creek Area a strong flow of wet gas was encountered in the Madison limestone at a depth of 11,800 feet. A high gravity oil of 54 degrees A.P.I. was recovered from the gas. Drilling and testing of the formation was being continued.

An active year in the Lloydminster field resulted in production of 304,236 barrels of oil in 1947 compared with 76,187 barrels in 1946.

Footage drilled during the year for the Province was 882,358 feet, an increase over the previous year of 284,530 feet.

New regulations concerning the granting of Petroleum and Natural Gas leases were established on August 19th, 1947; and amended on March 29th, 1948. The new rules were designed to ensure that the crown leases on any new oil field will not be monopolized by a single operator.

The production and value of our principal minerals during the calendar year 1947 were as follows:

	Production	Value
Coal.....	8,074,596 tons	\$36,317,343.00
Petroleum.....	6,809,284 bbls.	18,078,907.00
Natural Gas.....	53,092,389 Mcf.	2,654,614.00*
Salt (sodium chloride).....	29,552 tons	295,520.00

* Based on well-head valuation of 5 cents per Mcf.

During the fiscal year 53 new coal leases brought to 434 the number then active in the Province. New issues were made in accordance with the policy adopted in 1947, by which leases are issued to applicants able to satisfy the Department that they have the financial backing necessary to operate a mine.

MINERAL TAXATION

The discovery of new oil fields in our province and the active oil exploration program under way has added greatly to the work connected with administration of the Mineral Taxation Act. A certain amount of criticism was directed at the 1947 Act, because under it, only the registered owner of minerals was advised by notice, to the address appearing on the title, that unless tax arrears were paid within a year the Crown would proceed to take title. Complaints were made that others claiming an interest due to an encumbrance on the title did not receive a warning. An amendment to the Act provides for notification being sent to all interested parties.

Further amendments to the Act eliminate the issuance of titles in the name of the Crown. This procedure is unnecessary since the Provincial Lands Act makes no provision for disposal of mineral rights by the Crown.

RADIO COMMUNICATIONS

The opening of our lookout towers was again delayed in the spring due to the shortage of trained personnel to staff the towers and head-quarter stations. Operation of the system was satisfactory in spite

of the fact that the operators in many cases were men new to the service.

Operation costs showed an increase due to the high maintenance expenses necessary for old equipment. Many of the installations will have to be replaced in the near future.

FISH AND GAME

Our game resources appear to be withstanding the inroads of an increasingly large number of both resident and non-resident hunters. An indication of the increased interest in our game resources is seen in the fact that 344 non-resident general game licenses were issued in 1947 compared with 281 in 1946.

The only big game animals which have shown a definite decrease are the Rocky Mountain Bighorn sheep and the Woodland caribou. There is a shortage of moose in areas where the animal was once fairly abundant. It is believed that this situation is in part due to a southward migration of moose. A good nesting season resulted in a large increase in the number of ducks and geese. Upland game birds showed an increase but not sufficient to warrant an open season.

Close co-operation with the Federal Government, other provinces and sportsmen's organizations was maintained. At the annual meeting in October, 1947, in Winnipeg of representatives of the Prairie Provinces, Federal Fisheries officials and the Fisheries Research Board there was a discussion of problems connected with the marketing of the products of our commercial fisheries.

The annual meeting of the Alberta Game Association was held in January, 1948, in Calgary. Reports submitted by the Fish and Game Branches were well received by the meeting. An open discussion of matters affecting the administration of fish and game resources followed presentation of the reports.

Several years ago a clause was inserted in the Migratory Bird Regulations whereby a farmer could call in hunters to protect his crops from damage by migratory birds. The farmer was not required to obtain a permit but was required to give written permission to the hunters and to send a copy of it to the Game office in Edmonton. This arrangement was made for the sole purpose of protecting the crops of a farmer too busy with harvest to do it himself. Abuse of the system by hunters has forced the authorities to revert to the arrangement whereby the farmer obtains a permit and does his own hunting. As a result of our efforts a new agreement has been reached whereby the farmer can call in the help of two hunters on an individual permit for one period.

Bounties paid by the Province during the year reached a record of \$173,785.94. The largest portion of this was paid on 29,237 coyotes at \$5.00 each. The fact that these animals continue to be a problem to livestock owners has raised doubts concerning the effectiveness of bounty payments as a means of controlling predatory animals.

A severe winter kill in the northern lakes contributed largely to the depletion of our stock of commercial fish. The late break up of the ice and a lack of strong winds reduced oxygen content of the water and as a result there was a heavy loss of whitefish, pickerel and tullibee.

The value of the fur catch was \$2,781,991.07 compared with \$1,566,308.35 for the previous fiscal year. This increase in value is largely due to an increase in prices, although the catch was larger in the year being reviewed. The increase of both quantity and price was in muskrat, beaver and ermine. During the year 2,839 certificates of trap-line registration were issued. This decrease of 184 registrations from the previous year is due to more rigorous enforcement of renewal regulations.

TECHNICAL DIVISION

Considerable work was involved in the exchange of land with the Federal Government and in transfer to the Dominion of the resources, other than gold and silver under the land set aside for Indian reservations along the lower Athabasca River.

Jurisdiction over the resources of the National Parks is reserved for the Federal Government by terms of the National Resources Agreement. Consequently when the park boundaries are changed, mineral rights of the affected area must also be transferred. During the fiscal year 1947-48 an amendment to the Provincial Lands Act approved in February, 1948, legalized the status of mineral rights of the National Parks in accordance with the present boundaries.

When, in November, 1937, certain lands along the lower Athabasca River were transferred to the Dominion Government for use as Indian reservations, mineral rights were reserved by the Province. Federal authorities have contended that since Indians under treaty are entitled to full ownership of lands and resources, the mineral rights should have been included in the transfer as stipulated by the Natural Resources Agreement. Transfer of the mineral rights to Federal jurisdiction was completed in October, 1947.

Notifications covering surface rights issued during the year totalled 873 and involved 129,374,829 acres compared with 1,205 notifications involving 169,935,499 acres in the fiscal year 1946-47. Four additional notifications involved the transfer of the mineral rights of the National parks to the Dominion Government.

Settlers in the Special Areas continued to take advantage of the arrangement whereby they can exchange scattered holdings for more suitable Crown lands. During the fiscal year 24 of these exchanges were completed and 10 more are pending until the applicant has proved good faith by remaining on the Crown land for one year.

Three applicants from other than Special Areas qualified for exchanges.

The shortage of surveyors continued to keep our survey program at an almost complete standstill. A private surveyor was obtained to survey the lands given up by the recession of Beaver Hill Lake. Township plans of the area will be published in due course. Aerial photography of the Province is being continued by the Dominion Government. A considerable portion of the work has been done, but that completed prior to 1935 is not of the same quality as more recent work. It is hoped that the Province will set up a provincial aerial photography library to make the information obtained more readily available.

FORESTRY

The pressing demands of the housing shortage continue to impose a strain on our timber resources. When the province took over the natural resources in 1931 the annual cut was 51 million feet. During the fiscal year 1947-48 the cut totalled over 390 million feet. The actual timber footage of the province has not yet been computed but it is known that it is not sufficient to withstand depletion at that rate for long.

During the year an agreement reached by the Province and the Dominion provided for the establishment of the Eastern Rockies Forest Conservation Board. The area covered by the agreement involves the headwaters of streams feeding the North and South Saskatchewan Rivers and providing water for the three prairie provinces.

The three members of the Board are: Howard Kennedy, C.B.E., M.C., B.Sc., *Chairman*; J. M. Wardell, C.B.E., B.Sc., *Dominion Member*; and H. G. Jensen, M.B.E., *Alberta Member*.

Funds are being provided to enable the Board to expand fire prevention facilities, study reforestation, and to study administrative methods.

By authority of an Order in Council dated January 29th, 1948, approximately two-thirds of the province was withdrawn from settlement and established as a timber reservation. Main factors considered when the area was selected were the value of the timber and the quality of the soil.

REGISTRATION

There was a marked reduction in the amount of incoming mail during the fiscal year. Letters received totalled 545,302 compared with 652,231 in the previous year. Other work in this division showed a considerable increase.

Changes were made in the records that involved the checking, repairing and splitting of numerous files. Work in the records section was greatly increased.

The number of recordak films exposed and checked was 199, the same as in the previous year.

J. HARVIE,
Deputy Minister.

DEPARTMENT OF LANDS AND MINES

ALBERTA PETROLEUM PRODUCTION 1914-1947
Barrels of 35 Imperial Gallons

	TURNER VALLEY		LEDUC	CONRAD	TABER	PRINCESS	WAIN- WRIGHT	VER- MILION	LLOYD- MINSTER	OTHER FIELDS	TOTAL Outside T.V.	ALBERTA TOTALS
	Crude Oil	Natural Gasoline										
1914-21.....	56,599	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	56,675
1922.....	6,559	9,237	.....	.....	.....	.....	.....	.....	.....	.....	.....	15,196
1923.....	1,943	8,060	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,003
1924.....	4,621	13,128	.....	.....	.....	.....	.....	.....	.....	.....	.....	17,749
1925.....	171,934	8,951	.....	.....	.....	.....	.....	.....	.....	.....	.....	180,885
1926.....	206,334	7,283	.....	.....	.....	.....	.....	.....	.....	.....	.....	213,593
1927.....	323,403	5,854	.....	.....	.....	.....	.....	.....	.....	.....	.....	332,312
1928.....	481,358	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	489,532
1929.....	981,592	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	999,523
1930.....	1,366,909	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,436,259
1931.....	1,372,246	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,454,816
1932.....	876,274	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	918,154
1933.....	790,670	185,781	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,012,784
1934.....	818,447	414,324	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,266,049
1935.....	730,354	496,681	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,263,968
1936.....	674,559	602,360	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,320,428
1937.....	2,109,559	637,169	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,796,874
1938.....	6,159,704	531,434	.....	.....	600	.....	.....	.....	.....	.....	.....	6,743,101
1939.....	7,259,494	296,787	.....	.....	15,098	.....	.....	.....	.....	.....	.....	7,593,492
1940.....	8,180,325	274,172	.....	.....	3,720	.....	.....	.....	.....	.....	.....	8,495,207
1941.....	9,337,221	293,122	.....	.....	.....	.....	.....	.....	.....	.....	.....	9,908,643
1942.....	9,701,719	302,216	.....	.....	5,600	.....	.....	.....	.....	.....	.....	10,136,296
1943.....	8,991,528	461,169	.....	.....	29,819	.....	.....	.....	.....	.....	.....	9,674,548
1944.....	7,878,128	448,186	.....	.....	88,735	.....	.....	.....	.....	.....	.....	8,788,726
1945.....	7,009,521	412,540	.....	.....	148,638	.....	.....	.....	.....	.....	.....	8,055,440
1946.....	5,937,362	434,210	.....	.....	135,000	.....	.....	.....	.....	.....	.....	7,190,532
1947.....	5,022,350	427,225	.....	.....	206,925	.....	.....	.....	.....	.....	.....	7,190,532
Total.....	86,661,203	6,280,965	372,427	584,003	839,371	276,985	256,464	978,455	420,569	452,232	4,183,506	97,134,674

Provincial and School Lands Administration

REPORT OF THE DIRECTOR OF LANDS,
V. A. WOOD

April 1st, 1947, to March 31st, 1948

Much interest has been shown in the Agreements between the Government and the contractors to clear and break areas of Provincial Lands for the rehabilitation and settlement of veterans. In August, 1946, Lassiter's Limited entered into an agreement with the Government to clear, break and prepare for seed 100,000 acres of Provincial Lands. By October, 1947, when the project was closed down for financial reasons, thirty-five half-section units had been cleared and partially broken and prepared for seed. A new contract was entered into between the Government and Lassiter's Limited in January and since that time clearing operations have been carried on mainly in Township 78, Ranges 1 and 2, west 6th Meridian. Since January 1st the Government has entered into an agreement with Mix Brothers Construction Company, Limited, to clear, break and prepare for seed 6,400 acres in Townships 78 and 79, Range 1, west 6th Meridian and with Peter Simonsen of Edmonton, to clear, break and prepare for seed 3,520 acres, in Townships 78 and 79, Range 2, west 6th Meridian.

Two hundred and forty-five veterans expressed by letter their wish to obtain a half-section unit of the land cleared and partially broken by Lassiter's Limited during 1947, in Township 79, Ranges 2, 3 and 4, west of 6th Meridian. As only 35 parcels were available a draw was held on August 26th, 1947. The first 35 persons whose names were drawn will be issued a lease when the clearing, breaking and preparation of the land for seed has been finally completed.

Wheat seeding started in Alberta in the week ending the 19th of April and was practically completed by the 7th of June. There was considerable damage caused by drought, particularly in the south-eastern and northern parts of the Province. There was also some damage caused by hail and frost. Harvesting was practically completed by the 25th of October.

The crop year commencing the 1st of August, opened with no quotas on delivery of grain but the Canadian Wheat Board found it necessary to institute quota restrictions at certain points on the 21st of August. However, all quotas were removed on the 14th of October.

Owing to the devastation caused by the war, coupled with a severe drought in Europe, there has been a good demand for wheat and other grains. The price for wheat was fixed again by the Canadian Wheat Board at \$1.35 per bushel at Fort William and Vancouver.

On the 25th of March the Canadian Wheat Board announced that all wheat marketed between August 1st, 1945, to March 31st, 1948, will be subject to a further adjustment payment of 20c per bushel. The price of flax was fixed at \$5.00 per bushel. Oats and barley price

ceilings were removed by the Canadian Wheat Board on the 21st of October and have since been sold on the open market. The price of oats increased approximately 10c per bushel and barley 15c per bushel.

The Department, as landlord, continued throughout the year to receive bonus, adjustment and participation certificate payments as follows:

Patronage Dividends (Represent dividends declared by various Companies for deliveries made between 1941 to 1946 inclusive).....	\$ 2,727.27
1947 Oats and Barley Adjustments (Represent payments made by three Companies for deliveries made between 1st of August, 1947, to 21st of October, 1947 inclusive).....	252.06
1946 Barley Adjustments at 10c (Represent adjustment of 10c per bushel for barley sold from 1st of August, 1946, to the 17th of March, 1947, inclusive).....	4,362.23
1943 Wheat Crop Participation Certificates—Final Payment.....	21.01
1944 Wheat Crop Participation Certificates—Final Payment.....	14,892.44
1945 Wheat Crop Adjustment of 10c per bushel.....	2,766.54
TOTAL.....	\$25,021.55

The following are a few of the amendments made to the Provincial Lands Act during the 1948 Session of the Provincial Legislature, which pertain to land administration:

A new Section 14(a) was added to Section 14, stating that the expressions "agricultural lease" and "agricultural lessee" shall be deemed to be and shall mean "homestead lease" and "homestead lessee" wherever the same occur in the Act and the regulations.

Section 21 was amended authorizing applications for agricultural leases to be made, not only at the Provincial Land Office for the district in which the land is situated, but at such other place as may be authorized by the Lieutenant Governor in Council.

A new Section 26(a) was added to Section 26, which permits any person appointed in writing by the Minister to examine or inspect any storage ticket, book of account or other document or record of any elevator, storage or transportation company, relating to the possession, delivery, transportation, storage or other disposition of a crop or share of a crop grown on land leased from the Crown pursuant to the Provincial Lands Act or any other Act of the Province which provides for payment of rental on a crop share basis.

A new Section 108(a) was added to Section 108, permitting the Minister or any person appointed in writing by the Minister, to seize grain wherever found within the Province of Alberta, belonging to a lessee who is in default in the due payment of any share of the crop under a lease entered into pursuant to the Provincial Lands Act.

The following Orders in Council affecting land administration were passed during the fiscal year:

Order in Council No. 553-47, dated the 3rd of June, 1947, Agricultural Lease Regulations amended and consolidated.

Order in Council No. 768-47, dated the 29th of July, 1947, and Privy Council No. 3371, dated 20th of August, 1947, approved an agreement made between the Provincial and Dominion Government to discontinue and abolish as from 1st of September, 1947, certain public shooting grounds established in 1925.

Order in Council No. 1262-47, dated the 2nd of December, 1947, new Cultivation and Grazing Lease Regulations established. Cultivation and Grazing Leases may now be issued where an inspection report shows that one-fourth of the area applied for is suitable for cultivation.

Order in Council No. 1376-47, dated the 20th of December, 1947, established the rental and crop share rate in connection with Cultivation and Grazing Leases. Rental for the uncultivated land varies from 5c per acre to 8c per acre and the Departmental crop share varies from a one-sixth share to a one-fourth share according to districts.

Order in Council No. 113-48, dated 29th of January, 1948, withdrew from settlement and reserved solely for industrial and commercial purposes the outlying wooded and unsettled areas of the Province.

Order in Council No. 144-48, dated the 11th of February, 1948, changed and extended the boundaries of the area in which applications for Agricultural leases may be accepted from civilians. The area now includes the Fort Vermilion district.

Land Agencies were continued at Calgary and Peace River and Sub-Agencies were maintained at Athabasca, Bonnyville, Grande Prairie, Hines Creek, Lac La Biche and Rocky Mountain House.

The following is a summary of the field inspections:

SOIL INVESTIGATIONS:

Requests outstanding at April 1st, 1947.....	615
Requests called during fiscal year.....	964
Reports received during fiscal year.....	1,185
Requests outstanding at March 31st, 1948.....	394

The Veterans' Land Act Inspectors again rendered valuable assistance by furnishing some of the soil reports in connection with applications for Veterans' Agricultural Leases.

PROVINCIAL, GRAZING AND SCHOOL LAND INSPECTIONS:

Requests outstanding at April 1st, 1947.....	673
Requests called during fiscal year.....	2,239
Reports received during fiscal year.....	2,182
Requests outstanding at March 31st, 1948.....	730

A large number of the inspections outstanding accumulated during the winter and spring months when the inspectors were not in the field.

COLLECTION INSPECTIONS

The Inspector of Collections was in the field from the 17th of April, to the 16th of December, when weather conditions prevented further travel. However, road conditions improved and the Inspector returned to the field for a further three weeks in January. Approximately 500 calls were made and slightly over \$20,000.00 in past due accounts were collected. In addition to collections the Inspector reported on applications for renewal Cultivation and Grazing Leases and also investigated a number of cases where the lessees reported harvesting slightly under five bushels per acre.

In addition to our seven regular inspectors three agricultural students from the University of Alberta were employed as temporary inspectors during the summer months.

The following is a summary of other business transacted:

ACCRUED AREA LEASES:	No.	Acres
Leases in force at April 1, 1947.....	544	41,981.66
Leases issued during fiscal year.....	143	8,848.43
Leases cancelled during fiscal year.....	82	5,254.50
Leases in force at March 31st, 1948.....	605	45,575.59
AGRICULTURAL LEASES—CIVILIAN:		
Leases in force at April 1, 1947.....	1,078	199,039.91
Leases issued during fiscal year.....	985	219,594.74
Leases cancelled during fiscal year.....	255	53,964.61
Leases in force at March 31st, 1948.....	1,808	364,670.04
AGRICULTURAL LEASES—VETERAN:		
Leases in force at April 1, 1947.....	909	243,000.68
Leases issued during fiscal year.....	561	138,472.60
Leases cancelled during fiscal year.....	114	26,020.60
Leases in force at March 31, 1948.....	1,356	355,452.68
LICENSES OF OCCUPATION:		
Licenses in force at April 1, 1947.....	132	2,957.08
Licenses issued during fiscal year.....	22	571.39
Licenses cancelled during fiscal year.....	2	61.60
Licenses in force at March 31st, 1948.....	152	3,466.87
MISCELLANEOUS LEASES:		
Leases in force at April 1, 1947.....	155	10,383.42
Leases issued during fiscal year.....	24	605.31
Leases cancelled during fiscal year.....	17	398.76
Leases in force at March 31, 1948.....	162	10,589.97
TOWNSITE LEASES:		
Leases in force at April 1, 1947.....	8	
Leases issued during fiscal year.....	...	
Leases cancelled during fiscal year.....	...	
Leases in force at March 31, 1948.....	8	
MINERAL SURFACE LEASES:		
Leases in force at April 1, 1947.....	17	
Leases issued during fiscal year.....	1	
Leases cancelled during fiscal year.....	4	
Leases in force at March 31, 1948.....	14	
FUR FARM LEASES:		
Leases in force at April 1, 1947.....	11	
Leases issued during fiscal year.....	...	
Leases cancelled during fiscal year.....	...	
Leases in force at March 31, 1948.....	11	
21 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	7	2,070.93
Leases issued during fiscal year.....	...	
Leases cancelled during fiscal year.....	...	
Leases in force at March 31, 1948.....	7	2,070.93
6 YEAR CULTIVATION LEASES (SOUTHEASTERN PORTION OF PROVINCE):		
Leases in force at April 1, 1947.....	87	18,793.06
Leases issued during fiscal year.....	4	637.73
Leases cancelled during fiscal year.....	5	1,116.20
Leases in force at March 31, 1948.....	86	18,314.59
6 AND 10 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	268	49,048.93
Leases issued during fiscal year.....	152	26,687.04
Leases cancelled during fiscal year.....	72	15,560.18
Leases in force at March 31, 1948.....	348	60,175.79
SPECIAL AREAS—6 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	862	227,766.47
Leases issued during fiscal year.....	...	
Leases cancelled during fiscal year.....	32	9,063.55
Leases in force at March 31, 1948.....	830	218,702.92
SPECIAL AREAS—20 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	253	67,305.95
Leases issued during fiscal year.....	23	6,210.94
Leases cancelled during fiscal year.....	11	2,560.84
Leases in force at March 31, 1948.....	265	70,956.05

SPECIAL AREAS IRRIGATION LEASES:		
Leases in force at April 1, 1947	4	628
Leases issued during fiscal year .....	.....	.....
Leases cancelled during fiscal year .....	.....	.....
Leases in force at March 31, 1948	4	628
PROVINCIAL LAND SALES:		
Sales in force at April 1, 1947	211	14,441.59
New sales during fiscal year including 73 lot sales for which no acreage given	127	5,337.71
Sales cancelled during fiscal year	3	381.20
Sales patented during fiscal year	120	5,862.03
Sales in force at March 31, 1948	215	13,536.07
RIGHT OF ENTRY:		
Right of Entries in force at April 1, 1947	67	
Applications received	52	
Right of Entries granted	30	
Right of Entries cancelled	21	
Applications pending as at March 31, 1948	22	
Right of Entries in force at March 31, 1948	76	
HOMESTEADS AND SOLDIER GRANTS:		
Cancellation of Homesteads and Soldier Grants	158	
Applications for Notifications for Title on hand at April 1, 1947	693	
Applications for Notifications for Title received during fiscal year	143	
Notifications for Title issued during fiscal year	499	
Applications on hand (checked and waiting completion) at March 31, 1948	337	
Unpatented Homesteads and Soldier Grants	521	
MISCELLANEOUS SQUATTER'S PERMITS:		
Issued during fiscal year	613	
MISCELLANEOUS PERMITS FOR BUILDING SITES		
on trap lines issued during fiscal year	200	
GRAZING PERMITS issued	2,633	487,515.71
CULTIVATION PERMITS issued	248	5,103.23
HAY PERMITS issued	1,420	
Total number of tons, 14,687		
HAY SEIZURES	14	
Total number of tons, 202.5		
ASSIGNMENTS REGISTERED (Leases, Permits and Sales) ..	326	

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GRAZING

In accordance with the method inaugurated in 1945 for calculating grazing rentals, it was ascertained that the average price for all grades of cattle on the Calgary Stockyard from July to December, 1947, inclusive, was 10.94c per pound as compared with 10.15c for the same period in 1946. Consequently the grazing rentals were raised.

During the fiscal year the lands formerly in the Wainwright Buffalo National Park, Nemiscam National Park, the easterly sixteen sections of Waterton Lakes National Park and the area lying east of the South Saskatchewan River, in Townships 15 and 16, Ranges 4 and 5, West 4th Meridian, which was formerly a part of the British Block, were all transferred to the Province in the right of the Department of Lands and Mines, for administration. Approximately 14,000 acres comprising the northerly portion of the Blackfoot Provincial Grazing Reserve were transferred to the Dominion Government to be added to the Elk Island National Park.

Maps and details of these transfers will be found in the report of the Superintendent of the Technical Division.

The lands formerly included in Wainwright National Park, lying within the boundaries of a defined fence, have been leased to the Dominion Government for defence purposes.

As a result of the transfers of land between the Provincial and Dominion Governments, negotiations have been started to form grazing associations for the establishment of five new community grazing reserves, namely: Poll Haven Grazing Association for the sixteen sections deleted from the Waterton Lakes National Park;

Nemiscam Grazing Association for the lands formerly in the Nemiscam National Park;

Wainwright Grazing Association for the lands lying outside of the aforesaid fence and formerly included in the Wainwright Buffalo National Park;

Drowning Ford Grazing Association for the lands formerly included in the British Block;

Blackfoot Grazing Association for the lands situated in Township 52, Ranges 19 and 20, West 4th Meridian, which were formerly included in the Blackfoot Provincial Grazing Reserve and now lie to the south of the lands added to Elk Island National Park.

Negotiations were also started to form the Cherry Grove Grazing Association for certain lands situated in Township 62, Range 1, west 4th Meridian.

There were fifteen Departmental Grazing Reserves and Community Pastures in operation at the commencement of the fiscal year. During the year Forty Mile-Bow Island Reserve was formed and issued a joint lease in the name of the municipalities of Forty Mile and Bow Island. The Howell Head Tax Reserve was cancelled and a lease was issued to the Howell West Grazing Association.

The following is a summary of the Grazing Reserves and Community Pastures (*Reserves with permanent caretakers*):

Vauxhall Provincial Grazing Reserve: Area: 165,500 acres.
76 Permits issued covering
1,791 cattle,
91 horses and 5,237 sheep.

Blackfoot Provincial Grazing Reserve: Area: 38,000 acres.
108 Permits issued covering
1,262 cattle and 1,192 horses

Twin River Provincial Grazing Res.: Area: 20,500 acres.
47 Permits issued covering
1,185 cattle and 19 horses.

ASSOCIATION RESPONSIBLE FOR UPKEEP AND CARE OF STOCK

Tulliby Lake Provincial Grazing Reserve:
Area: 22,000 acres.
One Permit issued covering
625 cattle.

GRAZING RESERVES UNDER LONG TERM LEASES BY ASSOCIATION

	Acres
Castle River Reserve	6,318
Fir Grove Reserve	3,591
Ross Lake Reserve	4,473
Barnwell Reserve	5,466
M.D. of Eureka Reserve	3,992
Pipeline Reserve	22,696

Rocky Coulee Reserve.....	4,432
Many Island Lake Reserve.....	15,757
Hilda District Reserve.....	26,350
Bluefield Reserve.....	11,602
Bowell West Reserve.....	8,210
M.D. of Forty-Mile-Bow Island Reserve.....	24,365

LONG TERM GRAZING LEASES

	No.	Acres
LEASES IN FORCE APRIL 1, 1947:		
Lands Branch Leases.....	1,911	2,622,253.00
Special Areas Leases.....	1,339	1,906,229.00
Total.....	3,250	4,528,482.00
Leases issued during fiscal year.....	696	1,018,467.00
Area added to existing leases during fiscal year.....		95,949.00
Leases reinstated during fiscal year.....	5	6,339.00
Leases cancelled during fiscal year.....	513	776,385.00
Area withdrawn from existing leases.....		43,356.00
Total number and area of existing leases.....	3,438	4,829,496.00
LEASES IN FORCE MARCH 31, 1948:		
Lands Branch Leases.....	1,897	2,673,527.00
Special Areas Leases.....	1,541	2,155,969.00
Total.....	3,438	4,829,496.00

The above acreage for grazing leases includes small areas of School Lands, as School Lands may be included in a grazing lease where not less than two sides adjoin or are adjacent to the Provincial Land to be leased.

Details pertaining to the revenue in connection with the administration of Provincial Lands may be found in the report of the Accounting Division of this Department.

NOTE—The term "Leases cancelled during fiscal year," includes leases which expired.

SCHOOL LANDS

For a number of years applications for Cultivation and Grazing Leases have been accepted only on land that had been previously cultivated and where the inspection report showed that at least one-third of the area applied for was suitable for cultivation purposes. By Order in Council No. 1262-47, dated the 2nd of December, 1947, Cultivation and Grazing Leases may now be issued on vacant Provincial and School Lands whether or not the land has been previously cultivated, providing the inspection report shows that one-fourth of the area applied for is suitable for cultivation. Due to the change in the Regulations there is quite a demand for Cultivation and Grazing Leases on School Lands.

Due to high prices for grain and livestock, collections have again been very good, and the accounts in general are in a very satisfactory condition.

Four Auction Sales of land were held and nine parcels of School Lands, including Town Lots, were sold at a total of \$5,431.20. The total revenue received on School Lands Sales amounted to \$135,059.48, made up as follows:

Principal—\$107,308.60
Interest—\$ 27,750.88

The following is a summary of other School Lands business transacted:

School Lands Sales active as at April 1, 1947	512	
New School Lands Sales during fiscal year.....	9	
School Lands Sales cancelled.....	9	
School Lands Sales patented.....	157	
School Lands Sales at March 31, 1948.....	355	
The approximate acreage of active Sales at March 31, 1948—56,800 acres		
MISCELLANEOUS LEASES:	No.	Acres
Leases in force at April 1, 1947.....	75	2,687.65
Leases issued during fiscal year.....	4	172.48
Leases cancelled during fiscal year.....	5	150.72
Leases in force at March 31, 1948.....	74	2,709.41
LICENSES OF OCCUPATION:		
Licenses in force at April 1, 1947.....	43	490.12
Licenses issued during fiscal year.....	1	11.91
Licenses cancelled during fiscal year.....	1	0.78
Licenses in force at March 31, 1948.....	43	501.25
6 and 10 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	1,413	267,476.13
Leases issued during fiscal year.....	161	30,197.40
Leases cancelled during fiscal year.....	173	23,189.29
Leases in force at March 31, 1948.....	1,401	274,534.24
SPECIAL AREAS—6 YEAR CULTIVATION AND GRAZING LEASES:		
Leases in force at April 1, 1947.....	87	18,885.08
Leases issued during fiscal year.....	....	.....
Leases cancelled during fiscal year.....	....	.....
Leases in force at March 31, 1948.....	87	18,885.08
GRAZING PERMITS ISSUED	2,066	538,591.89
CULTIVATION PERMITS ISSUED	40	1,095
HAY PERMITS ISSUED.....	218	2,729 tons
ASSIGNMENTS REGISTERED (Leases, Permits and Sales).....	135	

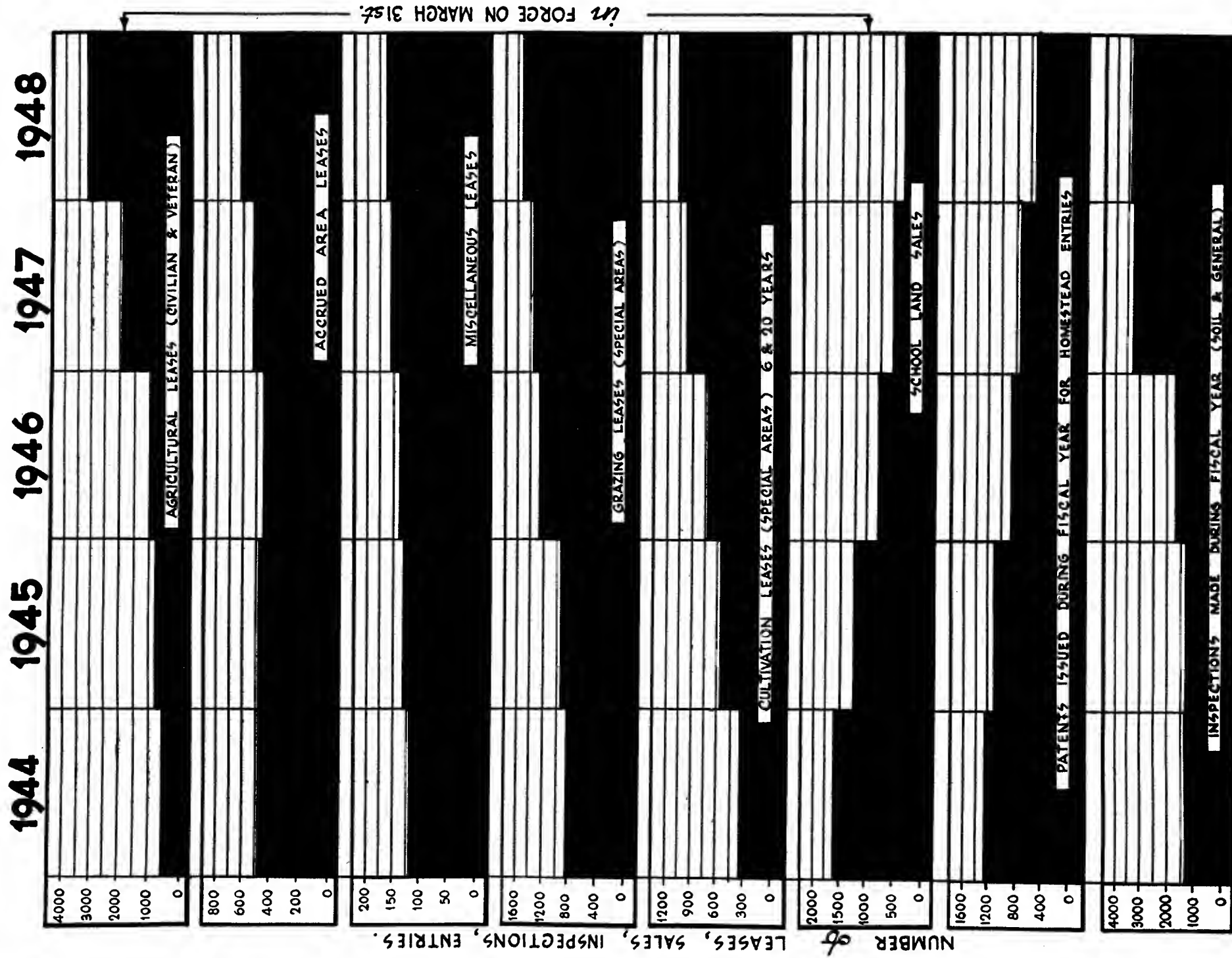
Statement of the revenue pertaining to School Lands may be found in the report of the Accounting Division.

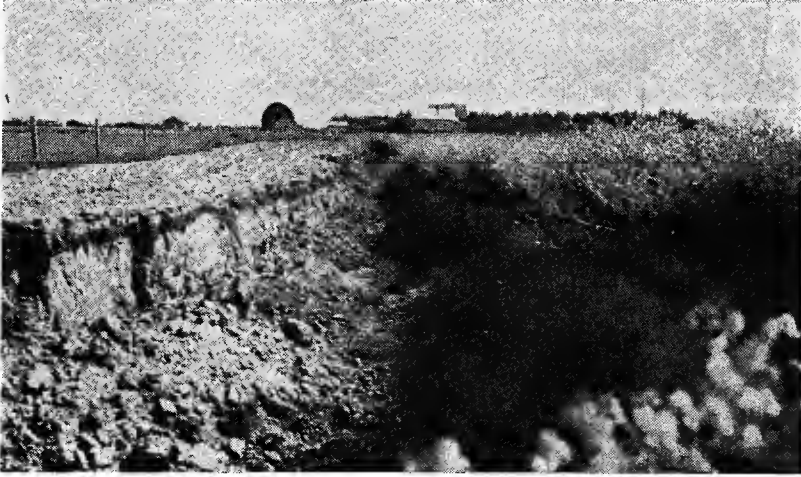
NOTE—The term, "Leases cancelled during fiscal year," includes leases which expired.

Charts

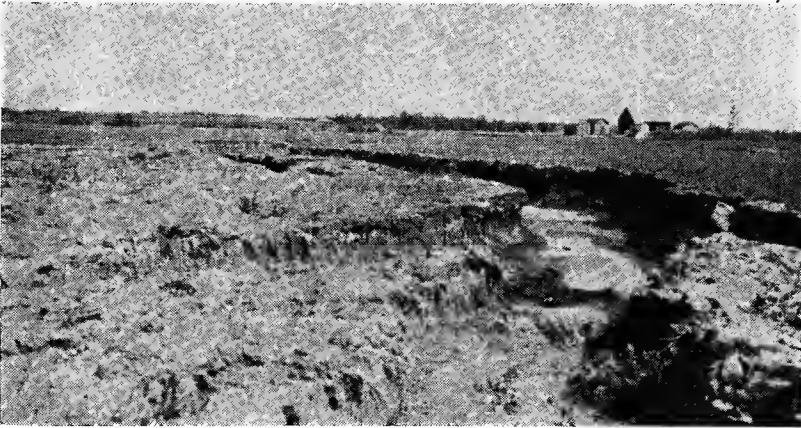
SHOWING *the* PRINCIPAL INCREASES & DECREASES *in the*

DISPOSITION OF CROWN LANDS
DURING THE LAST 5 YEARS.

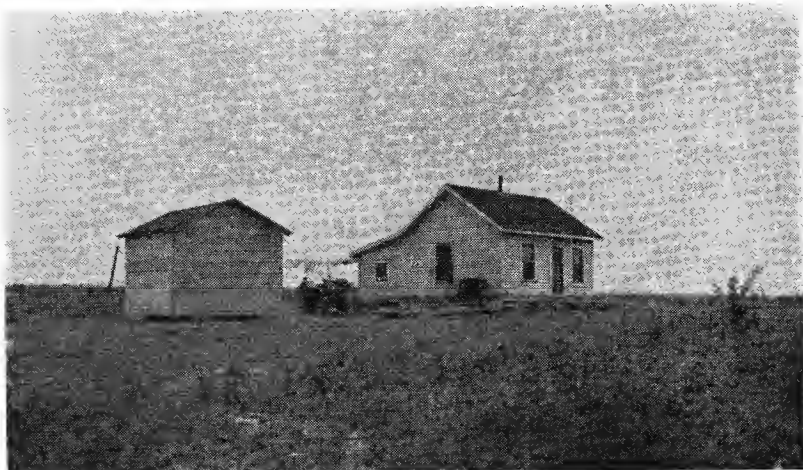




Water erosion, spring of 1948, near Eaglesham in the Peace River District. Lack of fibre in the soil, coupled with heavy run off can have serious consequences.



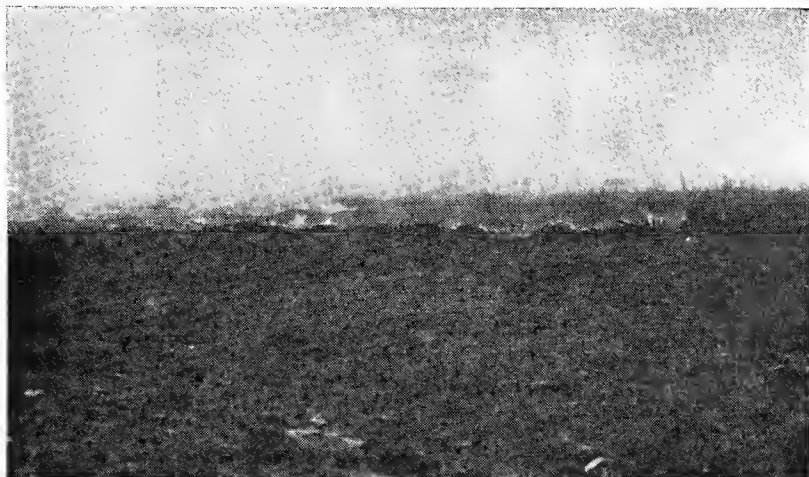
Water erosion in spring of 1948, near Prestville, Peace River District. Due to unusually heavy run off and the lack of fibre in the soil.



First settler on the Land Clearing Project (Wanham Area)



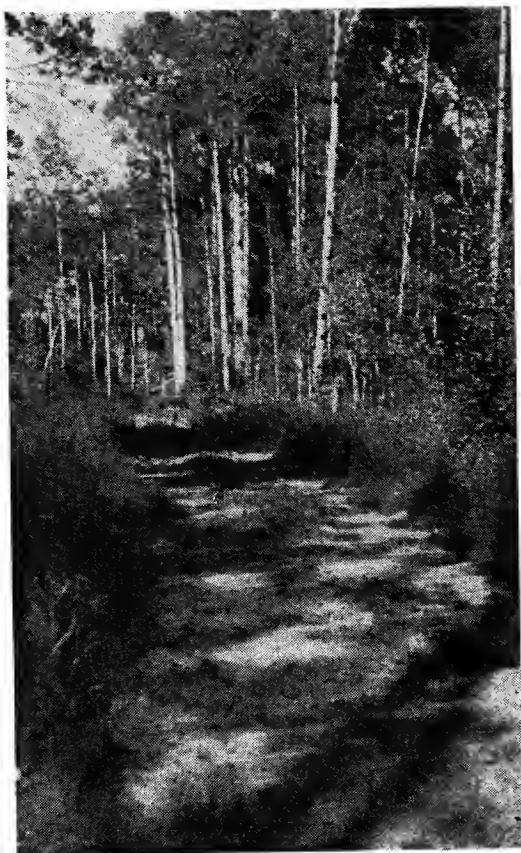
Floating operation on Clearing Project.



Burning brush piles on Land Clearing Project.



Hay meadows in area north of High Prairie.



Typical cover south of High Prairie.



Fire killed cover typical of some areas now being settled in the Peace River District.

Forestry

REPORT OF THE ASSISTANT DIRECTOR OF FORESTRY E. S. HUESTIS

Due to the absence of the Director of Forestry on sick leave, the annual report for the fiscal year 1947-48 must of necessity be written by the Assistant Director.

The year under review has been a rather disastrous one from the point of view of personnel in this Province. On June 4th, 1947, Mr. J. A. Hutchison, former Assistant Director of Forestry, left the Service to become Superintendent of Banff National Park, and on February 28th, 1948, our Director of Forestry, Mr. T. F. Blefgen, unfortunately suffered a heart attack which required him to leave the office for an indefinite period on sick leave. The loss of these two men was very vital to the forest administration of the Province and it will be difficult to replace them. At the time of writing this report it is understood that the Director of Forestry will be unable to return to his duties due to the nature of his illness.

The Director of Forestry, Mr. T. F. Blefgen, has risen from the ranks to head the Forest Service. He started as an Assistant Ranger in the Crowsnest Forest on May 1st, 1911, received various promotions to Ranger, Assistant Supervisor, Supervisor, Assistant District Forest Inspector under the Dominion Government, and with the transfer of the Natural Resources from the Dominion to the Province in 1930, became Director of the new Alberta Forest Service. His service was only broken by the period spent in the airforce in the First World War. A great deal of credit is due to a man who rises from the lowest position in an organization to the highest. It gives him, in his experience in the field, a wider and more lasting knowledge of the work of the Forest Service and gives him an intimate knowledge of the problems which face the personnel of the Service in the various positions from the very lowest to the highest. It also gives him an intimate knowledge of the various Forests, making it possible for him to give better decisions on details in view of his close relationship to these details over a period of years. The Alberta Forest Service will miss Mr. Blefgen and we wish him many years of a well earned retirement.

The period of service of our former Assistant Director of Forestry, Mr. J. A. Hutchison was little short of the period of service of the Director. He first came with the Forest Service in May, 1913, as an Assistant Ranger on the Brazeau Forest and during the period of his service rose through the ranks to eventually become Assistant Director of Forestry with the transfer of the Natural Resources from the Dominion to the Province in 1930. His period of service was broken twice, first by a number of years in the airforce during the First Great War, and secondly, by somewhat over six years, again in the airforce, in the Second World War.

Mr. Hutchison gained an enviable record for his work in the R.C.A.F. during the Second World War. He rose to the rank of Wing Commander and received the Order of the British Empire, and the United States Medal of Freedom with Bronze Palm for his co-

operation with the United States Army while in command of No. 4 I.T.S. of the R.C.A.F. at Edmonton.

Here again we have one of our men rising from the ranks, getting that very vital experience in lesser posts in the Service to give him an insight and knowledge which was of infinite value in his position as Assistant Director of Forestry. The Forestry Branch will miss Mr. Hutchison and we wish him the very best of success in his new position as Superintendent of Banff National Park.

The most important event as far as the Forest Service was concerned, in the fiscal year 1947-48, was the signing and ratification of an agreement with the Dominion Government for the setting up of the Eastern Rockies Forest Conservation Board for the administration of the Crowsnest, Bow River and Clearwater Forests, that portion of the east slope which contains the headwaters of the North and South Saskatchewan Rivers. The east slope is an area of inter-provincial interest as these rivers, whose source is in the east slope, flow through the provinces of Saskatchewan and Manitoba and are of vital importance to these other provinces as well as to the province of Alberta.

The Board consists of three members, the chairman and one member being appointed by the Dominion Government and the third member by the Alberta Provincial Government. Personnel of the Board are: Howard Kennedy, C.B.E., M.C., B.Sc., *Chairman*; J. M. Wardell, C.B.E., B.Sc., *Dominion Member*, and H. G. Jensen, M.B.E., *Alberta member*. The amount of money made available for the administration of these Reserves by the Provincial Government is roughly \$125,000.00 per year; the Board will have control of a fund up to approximately \$300,000.00 per year, the balance being supplied by the Dominion Government, and in addition, capital expenditures in the amount of \$6,300,000.00 will be authorized during the first six years of the agreement. Expenditure of this vast sum of money will enable these forests to expand their fire prevention facilities through the building of roads, trails, telephone lines, the purchase of equipment, and all the various factors that enter into fire suppression. It will also enable them to carry out scientific studies to determine the best methods of forest administration; it will allow them to determine and develop the best methods for the reforestation of areas which may have become denuded of timber through fires or other causes in the past. The Forest Service in Alberta is fortunate in such an agreement and should benefit very materially in the years to come.

The publicity in connection with the setting up of the Eastern Rockies Forest Conservation Board may have led people to believe that the Alberta Forest Service was not receiving sufficient funds to adequately handle the Reserves in comparison to what the Dominion may have done prior to the transfer of the resources in 1930. It should be explained that in the last year of Dominion control, 1929-1930, expenditures by the Dominion on all Forest Reserves in the Province amounted to \$271,108.50. In the first few years under provincial control the amount of money made available for the handling of the forest reserves was reduced and during the first year, 1931-32, the funds available amounted to \$161,001.10, of which \$77,102.06 was charged to the east slope. The amount made available was increased gradually until in 1943-44 Alberta passed the Dominion's expenditure in its last year, 1929-30, by spending a total

of \$291,327.50, of which \$118,333.89 was spent on the east slope administration. This total rose to \$387,770.00 prior to the east slope agreement, spent by the province on all forest reserves. It will be seen from these figures that the province was doing a good job of the administration of the forests but it was felt that greater expenditure was necessary, particularly as far as capital costs were concerned, and this was the basic reason for the setting up of the Eastern Rockies Forest Conservation Board.

The publicity in connection with the East Slope may have also given the impression to some people that there were large losses by fire while the Forest Reserves were under the sole administration of the province. It is true that there were losses, and some of these losses were heavy, during certain years under provincial control. However, a careful examination of all the annual reports for the period 1930 to the end of 1947 shows that in a total area of Forest Reserves amounting to 14,409 square miles the total loss of area burned amounted to 3.7% of the entire area. A further examination of these reports shows that in 1934 and 1936 three large fires swept over the mainrange of the Rocky Mountains from British Columbia, jumping over sheer walls of rock to spread large fires in the Castle River and Highwood River Areas. These fires, when they arrived in the Province of Alberta, were of such size that it was almost impossible to fight them by ordinary methods. The fire hazard being extremely high, a great deal of timber was consumed before the fires were ultimately brought under control. Taking into consideration the area burned over in these three fires and also adding in the area covered in various reports considered as non-forested, it is found that the amount of timber area burned during provincial control is reduced to 1.8%. It is felt that this is a very fine record and a great deal of credit should go to those two top men mentioned previously in this report for a job well done.

The next most important event in the year under review was the passing of an Order in Council on January 29, 1948, which placed a reservation on and withdrew from settlement all of the forest reserves, the Northern Alberta Forest District and other timber areas, comprising an area of approximately two-thirds of the Province, for the production of timber. In setting up the boundaries of this large reservation due consideration was given to two factors, the timber stands on the area reserved and the value of the soil as determined by soil surveys. Any area which contained soil suitable for agricultural purposes was left available for homestead leases.

Under this reservation settlement will only be allowed within the area reserved, for the purpose of taking our natural resources. There will be no curtailment of the use of the lands required for the taking of timber, fur, fish, minerals or any other of the natural resources. This reservation of vast areas will make it possible for the Forest Service to concentrate on fire protection and timber administration in these areas, and it is hoped by the exclusion of settlement that fires will be kept to a minimum in the reserved area. It is unfortunate that the majority of fires each year occur on what is known as the "frontier of settlement." Clearing of land is one of the greatest causes of fire losses, and by setting up this barrier between forested areas and settlement areas these losses can be kept to an absolute minimum.

Passing this Order in Council makes for the orderly settlement of available and suitable land. The resources of the province with

its vast area and small population will not allow for the building of roads and telephone lines, construction of schools and other facilities in isolated communities spotted wherever someone finds a small piece of arable land. Settlement will now become orderly, roads and other facilities can be built in an orderly manner, saving large sums in the general economic standing of the province.

Coupled with this reservation of timbered areas, clauses were placed in the regulations dealing with homestead leases whereby the holders of such leases, until they became the owners of same, would be required, where timber was available on the land, to leave approximately twenty acres of timber on each one hundred and sixty acres. The regulations ask that the lessee leave timber along water courses in order to eliminate erosion and the draining off of valuable soil down the streams. They are also encouraged to leave timber along the edges of roads on the opposite side to the prevailing winds, thus to accumulate snow during the winter months which will melt and seep into the surrounding soil. These woodlots will serve two principal purposes: 1. It will give the settler a permanent supply of fuel-wood and fence posts; 2. It will cut down on soil erosion, accumulate moisture, and along water courses it will help bind the soil and keep it in place rather than have it erode by spring floods.

Now that a definite reservation has been made of all timber producing areas in the province, it is necessary that we consider very carefully the proper handling of the timber resources of the province so that we will have a perpetual yield for ourselves and those to come after. It is unfortunate that money has not been available in past years to make a complete inventory of our forest resources, but a start is now being made and within a few years we will have a complete picture of what we have. With this picture and an estimate of the annual increment, we will be able to determine the amount which should be cut each year, taking into consideration average losses through various factors such as fire, insects, etc.

The continual rise in the amount of timber cut in this province gives room for reflection as to the desirability of continuing such large scale production. During the years of the war and immediately thereafter the demand for lumber increased steadily. This demand had to be met as part of our war effort, and following the war the demand still had to be met as part of our contribution towards supplying housing accommodation for those who returned from overseas. We have not yet caught up on our housing needs but in the very near future we should approach that point and then review the desirability of continuing large scale production of lumber, even though we may find a market elsewhere than in our own province to take up the surplus. In 1931, after the province took over the natural resources, the annual lumber cut was 51 million feet. This increased steadily with a slight drop in 1938 and 1939 until the first year of the war, 1940, when we cut 186 million feet. Thereafter there has been a steady increase in our production, until in the fiscal year 1947-48 the production amounts to just over 390 million. In spite of the fact that we have no inventory, those of us who have been in the Forest Service for years can visualize that this amount of timber cannot continue to be cut annually and leave something for the future. It is quite evident that we are now over-cutting and at the same time we are being approached by pulp and paper industries with a view to allowing them to cut in the province and use up at least another 150 million

board feet of lumber each year. If plans go forward, the amount required for pulp and paper mills may be doubled or trebled.

At the same time that we consider the annual cut as being possibly too large now, and our commitments for the future will definitely be too large, we should look with considerable alarm on the wasteful methods used in logging and milling of our timber resources, particularly our methods of milling. It is found that many of our operators are doing an excellent job in their logging operations and little waste occurs. However, the operators are still logging in such a way that immature trees are being knocked down or bruised, or destroyed by subsequent fires due to failure on the part of the company to adequately dispose of their brush after logging.

Many of our mills are doing a very good job of milling with the machinery at their disposal. Unfortunately, the type of mill which is available to them is not an economical mill and it would appear advisable that some means be found to introduce Swedish gang saws and possibly other Scandinavian machinery which has been manufactured with a view to a minimum of waste. In the Scandinavian countries they know their timber resources will last forever. At the present time we have far too many and too large sawdust piles in areas where sawdust cannot be used for any purpose. This is largely caused by mills using saws with a saw kerf which is altogether too great, and a search must be made for better types of saws in order to get more lumber out of each log. In many areas shavings from our planer mills are being used for insulation and other purposes, but many mills are located at such points that shavings cannot be transported to populated centres and it is necessary that they go into the burner. The same is true of slabs which are too thick and edgings which are too wide.

The fault here is not altogether with the operator. A new operator setting up in business attempts to obtain the best machinery available. The machinery available is not the best machinery obtainable. He is therefore required to take what is available and do the best he can with it. Most of them do the best they can but many mills are wasteful, even with the machinery that they have. This is due principally to the fact that the number of our mills is rapidly increasing and we are not able to obtain trained operators to run the machinery which is increasing so rapidly in our woods operations. A poor operator can waste more lumber and money for the owner of a timber berth than poor machinery.

During the year under review our forest detection and suppression organization has functioned in an excellent manner. We have found difficulty in securing men to fight fires and have had to augment this by the use of high powered machinery, particularly the bulldozer. This machine in the hands of a capable operator can do an excellent job in fire protection, and we are using them wherever they can be handled on an economic basis. Our detection system is gradually being increased; a new lookout has been established in the Lac La Biche District and we plan future lookouts to have a complete detection service over the entire forested area. With the use of radio, communication has been speeded up, our men get on fires faster when they are in the initial stage, with the result that the amount of labor and money required to put the fire under control is much smaller than in the past when communication was slow and transportation difficult.

We wish to express our deep appreciation to the radio stations of Alberta for their excellent co-operation in bringing to the attention of the public the menace of forest fires. During the spring of 1947 the Department, in co-operation with the radio stations and the newspapers, carried on a forest conservation program with excellent results. Following this, the radio stations, at their own expense and at their own suggestion, carried on a series of spot announcements, and in some cases, programmes, keeping in front of the public the question of forest protection and the necessity for each person resident in this province to consider that he or she might be the cause of a forest fire through carelessness. The slogan has been: "Only you can prevent forest fires."

One of the greatest problems facing the Forest Service at the present time is to obtain qualified personnel. We have an excellent ranger staff, a large percentage of our men have been with us for many years, but each year a few drop out, some of them to obtain higher paid positions, and some because they find work which is more attractive to them. It is difficult to replace these men. We are searching for men with a reasonable amount of education with the necessary training which would fit them for a life in the woods where they are the spearhead of our protection organization. There are so many opportunities today for positions which pay larger salaries than the Government service offers that it is difficult to get the best men. In spite of this we have secured some excellent new material and as the years go by these men will develop to take the place of those who have been our key men but have been required, sometimes through circumstances beyond their control, to leave us. We have lost some of our good men when we needed them most. It is hoped that we will be able to replace these men and rebuild and add to our effectiveness in conserving one of the greatest natural resources of this province.

The year as a whole has been a rather good one for the Forest Service. Some of the statements above may sound pessimistic to the reader but I think it is necessary that we face facts.

TREE DISTRIBUTION:

The following species and quantities were given out from Oliver in the spring of 1947:

Transplants:

White Spruce (<i>Picea glauca</i>)	14,750
Colorado Blue Spruce (<i>Picea pungens</i>)	2,000
Sitka Spruce (<i>Picea sitchensis</i>)	105
Douglas Fir (<i>Pseudotsuga mucronata</i>)	2,000
Lodgepole Pine (<i>Pinus murrayana</i>)	15,100
Scotch Pine (<i>Pinus sylvestris</i>)	5,580
White Pine (<i>Pinus strobus</i>)	650
Red Pine (<i>Pinus resinosa</i>)	700
Siberian Larch (<i>Larix sibirica</i>)	6,430
Bur Oak (<i>Quercus macrocarpa</i>)	21,796
Red Oak (<i>Quercus rubra</i>)	3,000
Green Ash (<i>Fraxinus pennsylvanica</i>)	8,200
American Elm (<i>Ulmus americana</i>)	8,000

Cuttings:

Laurel Leaf Willow (<i>Salix pentandra</i>)	17,900
Golden Willow (<i>Salix vitellina</i>)	19,510
North-west Poplar (<i>Populus</i>)	29,760

Ornamental Species:

Koster Blue Spruce (<i>Picea pungens Kosteri</i>) -----	535
Mountain Ash (<i>Sorbus americana</i>)-----	62
Lilac (<i>Syringa japonica</i>)-----	12
Black Walnut (<i>Juglans nigra</i>) -----	5
White Birch (<i>Betula papyrifera</i>)-----	24

 RADIO COMMUNICATIONS

 REPORT OF RADIO SUPERINTENDENT,
 A. EARNSHAW

For the period under review, the fiscal year of 1947-48, two things are mainly outstanding in the work of the Radio division. The first was the extreme difficulty experienced in securing suitable personnel for both Lookout tower operators and Headquarters station operators. The unusually high turnover of personnel was mainly due to the fact that returned men in the main were still dissatisfied with peacetime salaries and peacetime working conditions. Due to the personnel problem the Lookout towers were in general opened later than usual and in addition trail conditions to most of the towers were extremely difficult. One attempt to open Goose Mountain in April proved futile and a second attempt to reach the tower had to be made later.

A considerable amount of time was spent in installing radio equipment in new cars and trucks operated by forestry personnel. In all, twelve new installations were completed during the spring and early summer. The truck installations were made on a new pattern and instead of the equipment being dashboard mounted, the rear window of the cab in the light delivery was removed and a box fitted on the rear of the cab, access to which was obtained through the window opening. This method of mounting the equipment proved very satisfactory and also gave a slightly better efficiency to the transmitter due to the shortness of the antenna lead. The equipment in this position is protected to a great extent from riders in the cab and also from jolting and jarring which it experienced in the previous mounting position.

A considerable amount of work was done utilizing FM equipment in the 30 to 40 megacycle band. Some new units were purchased and test circuits were set up between various Lookouts in the N.A.F.D. which remained in operation during most of the summer. Additional checks to determine the coverage from these various points were made using the mobile installation in the car operated by the Radio Superintendent.

Despite the fact that a large number of the tower operators were new men, tower operation during the summer season was generally satisfactory. It is believed that the satisfactory operation was due largely to the fact that these men received approximately two weeks instruction prior to being taken to the tower.

Equipment was installed in a new lookout tower known as the Heart Lake tower, situated in Legal Subdivision 11, Section 29, Township 68, Range 9, west 4th Meridian. This tower had been under construction for some considerable time, and now serves a very useful purpose in the Lac La Biche area as it is the only tower in that

division. Completion of the summer fire hazard season produced several more changes in personnel, most of them among the lookout staff.

During the summer it was decided that the lookout tower at Buck Mountain no longer served any useful purpose in fire detection due to the fact that timber operators in that part of the country were ceasing their operations and moving away to other points where timber was more plentiful. It was decided therefore to abandon this tower and utilize the equipment installed therein at another point. The tower was accordingly closed at the end of the fire season and the equipment was all brought in to Edmonton for overhaul and repair. In addition to this equipment, all receiving equipment from the other towers in the N.A.F.D. was also brought in for revision and regular maintenance. During the winter months while this equipment was being revised and repaired a few improvements to the standard lookout transmitter circuit were evolved which will be carried out on all other transmitters as and when possible. It is probable that a considerable amount of this work will be done in the field without bringing the transmitters in to Edmonton. After overhaul, the equipment from the Buck Mountain Lookout was shipped to Grande Prairie radio station for installation in the tower which is to be built during the next year at Nose Mountain, situated in the southwest quarter of Section 23-64-11 west 6th Meridian. The usual summary of operations which is included in this report shows a slight increase in the amount of traffic handled. Maintenance costs for the year under review were increased over previous years. This increase was due first to the general price trend for all forms of spare parts used in this service and second to the fact that the equipment, some of which has been in use now for ten years, naturally requires more maintenance. This condition especially applies to the gasoline driven power plants and it is felt that it would be advisable to replace these, preferably with diesel-driven plants, at an early date. It will also be necessary to replace very shortly some of the radio equipment in lookout stations and headquarter stations, especially the transmitting equipment at the Edmonton radio station which was designed and built by the writer at the inception of the radio service in 1938 for intermittent operation. For the past four or five years this operation has been practically continuous, at times for 18 hours out of the 24.

A summary of the year's operations is given below:

LOOKOUT STATIONS—60 Watt and 100 Watt

Station	Engine Time		Gas Gals.	Oil Qts.	Messages	Words
	hrs.	mins.				
Adams Creek.....	99	51	29	2	302	4,017
Athabasca.....	247	00	19	7	199	3,229
Brazeau.....	246	39	60½	5½	1,076	20,675
Buck Mountain.....	475	35	112	6	918	14,816
Carrot Creek.....	179	30	54½	4	748	12,512
Goose Mountain.....	321	59	99	9	444	5,902
Heart Lake.....	88	30	22	1½	204	3,467
Lovett.....	273	30	62½	6	992	17,572
Mayberne.....	341	49	72	5¾	867	14,048
Puskwaskau.....	348	07	54¾	2¾	503	7,352
Saskatoon Mountain.....	328	10	64½	2	494	6,779
Whitecourt.....	401	14	121	9	3,057	57,321
	3,351	54	770¾	60½	9,804	167,690

HEADQUARTER STATIONS

Station	Engine Time		Gas Gals.	Oil Qts.	Messages	Words
	hrs.	mins.				
Calgary.....					4,893	117,898
Edmonton.....					14,084	354,175
Edson.....					3,220	70,839
Grande Prairie.....					3,063	69,220
Lac La Biche.....	469	25	95	6	2,953	64,797
Peace River.....					3,487	131,942
Rocky Mtn. House.....					1,363	32,765
Slave Lake.....	1,038	56	277½	16	1,381	31,761
Total.....	1,528	21	372½	22	34,444	873,397
Grand Total.....	4,889	15	1,143¼	82½	44,248	1,041,087

It is the opinion of the writer that the present Radio Service could be more widely used than it is at present by other government services. Doubtless these services would contribute towards the maintenance and operation of the Radio system, thus removing some of the cost load from this Department.

NORTHERN ALBERTA FOREST DISTRICT

Report of the Chief Timber Inspector, J. L. Janssen

FOREST PROTECTION

Fire Season and Fire Hazard.

The winter of 1946-47 was generally cold with deep snow and in the eastern and southern divisions the soil went into the winter in a moist condition, but again, as last year, this was not the case in the Peace River country, where the soil was dry as winter set in.

The spring break up was generally slow, with a small run-off allowing a large percentage of moisture to be absorbed by the soil, putting all divisions but those in the Peace River country in a very favourable condition as to fire hazard.

In the area known as the Peace River country, part of the Slave Lake division and part of the Whitecourt division a high hazard developed in May owing to little or no precipitation and high winds, which, although partly offset by cool weather, rapidly raised the hazard. On the south divisions a short period of above normal hazard occurred during the first part of May, but this was soon relieved by rains and the hazard remained normal and below normal for the rest of the season. The conditions on the Lac la Biche and Calling Lake divisions were very similar. Rain in June and July brought down the hazard on the Peace River, Grande Prairie, Slave Lake and Whitecourt divisions and for the balance of the season the hazard remained normal for all but the Peace River division. In this division the hazard again rose during August and remained quite high until relieved by rains in September; from then on the hazard remained normal until winter set in.

The hazard from settlers' fires appears to have diminished considerably during the last few years, no doubt partly owing to mechanical methods of land clearing now being generally employed, but mainly owing to the change in land settlement policy from the old homestead days.

Travellers, such as hunters and trappers, and also industrial operations, still cause too many fires.

A bad hazard created by road slash on the new Great Slave road was successfully disposed of by burning during October and November, by the Department of Public Works' contractors.

Fire Prevention:

The prevention of man-caused fires is attempted mainly by direct contact of the Forestry staff with settlers and forest users; also, to a limited extent, by publicity through the press and radio.

The Canadian Forestry Association again toured the forested areas showing films of forest fires and of conservation matters. They were very well received at all points. We urgently require more meetings of this nature, also more publicity by press and radio on all phases of forestry.

The recent Order in Council reserving from settlement the bulk of the remaining forested areas is expected to be of great assistance in preserving these areas from the fire menace.

Fire Detection:

This is carried out as in former years by the use of a limited number of look-out towers, by patrol and by co-operation of the public in reporting fires.

The present system of look-out towers consists of nine radio-equipped and four telephone-equipped towers. We are urgently in need of at least triple this number to obtain even a fair coverage of our forested areas.

Fire Suppression:

A total of 49 fires, exclusive of railway fires, were fought and suppressed by the Forest Service. In addition, 41 railway fires were reported and suppressed by the railways concerned, with some assistance by the Forest Service in a few cases.

We were fortunate this season in the fact that very few of our fires occurred in remote areas, where lack of roads and trails cause long periods of time to elapse between discovery and action.

Another pressing need is a modern system of roads and trails through our forested areas to enable us to place a crew on a fire within a reasonable length of time after the fire is discovered.

Considerable trouble was experienced at the beginning of the fire season in obtaining fire fighters, mainly by reason of the low rate of pay. This situation was remedied somewhat by raising the basic rate from twenty-five cents per hour to thirty-five cents.

The distribution of fires by divisions was as follows:

Breton Division—Three Class C and one Class D fires covered 3,440 acres of non-forested lands.

Edson Division—Three Class B and two Class C fires burned over 583 acres of merchantable timber and 50 acres of non-forested lands.

Edmonton Division—No fires endangered Crown timber.

Whitecourt Division—One Class B, one Class C and one Class D fires burned over 200 acres of merchantable timber, 790 acres of young growth and 811 acres of non-forested lands.

Lac la Biche Division—Two Class A, six Class B, four Class C and three Class D fires covered 103 acres of merchantable timber, 836 acres of young growth and 3,808 acres of non-forested lands.

Calling Lake Division—One Class C fire burned 40 acres of merchantable timber and 10 acres of young growth.

Slave Lake Division—Two Class A, one Class B, one Class C and one Class D fires covered 33,473 acres of non-forested lands.

Grande Prairie Division—Five Class C and six Class D fires burned over 3,200 acres of merchantable timber and 9,105 acres of young growth.

Peace River Division—Two Class C fires covered 255 acres of merchantable timber and 215 acres of non-forested lands.

Insects:

The Dominion insect rangers again toured the forested areas taking samples of insect life. The Northern Alberta Forest District was found to be quite free of insects injurious to the forest with the exception of an infestation of Bronze Birch Borers, found in the vicinity of Slave Lake. The Forest Service staff co-operated in the gathering of samples to be forwarded to the Insect Laboratory at Winnipeg.

Equipment:

Axes, shovels and backpack pumps were used on all fires, power pumps were used in some cases, and hired bulldozers were used on the Whitecourt, Slave Lake and Grande Prairie divisions.

Personnel:

Numerical strength of the ranger staff remained the same as in previous years, but the inspection staff was augmented by the appointment of three assistant timber inspectors.

Two timber inspectors resigned to take up more lucrative positions. Promotions within the Service accounted for two more vacancies in the inspection staff. These were filled by promotions from the ranger staff.

Promotions, resignations and dismissals accounted for fifteen vacancies in the ranger staff. These were all filled either by promotions from assistant rangers or by new appointments from outside applicants.

Ranger meetings were held at Peace River, Athabasca and Edson, and as formerly, were quite successful.

The usual inspectors' meeting was held in Edmonton.

The field staff of the Northern Alberta Forest District now comprises one chief timber inspector, one timber auditor-inspector, nine

chief rangers and timber inspectors, two timber inspectors, three assistant timber inspectors, forty forest rangers, five assistant rangers and twelve look-out men.

IMPROVEMENTS

New Construction:

BUILDINGS—*Alder Flats Barn:* Logs were cut and hauled for this building, also lumber was hauled to the site.

Pembina Cabin: Logs were cut for this cabin, lumber and other material purchased and all hauled to the site.

Nosehill Creek Cabin: Construction of this cabin was completed with the exception of plastering and foundation.

Entwistle Checking Station: A frame cabin was constructed at this point in November.

Little Smoky Cabin: Lumber and hardware were purchased for this and await transportation.

Tony Creek Cabin: Lumber and hardware were purchased for this and await transportation.

Gregoire Cabin: This cabin was constructed and finished with the exception of painting.

Keg River Tool Cache: A log building 14 ft. by 16 ft. with lumber roof was constructed.

Upper Hay Cache: A log building with lumber roof covered with roofing was constructed. It has not been chinked or plastered.

Little Red River Cache: This is a log building constructed late last fall and it has not been chinked or plastered.

Shuttlers Flats Cabin: This cabin, of logs with lumber roof, was constructed.

Bald Mountain Cabin: Log walls were erected and materials for completing this cabin were obtained.

Swan Ranger House: Remainder of construction work was carried out and building completed.

Junction Cabtn: The foundation was laid, log walls erected and floor joists installed.

Crooked River Cabin: Lumber and hardware purchased and moved to Fawcett Lake.

TRAILS—*Willow River Trail:* Approximately ten miles of this trail were cleared between Section 18, Township 79, Range 26, west of the 4th Meridian, and Section 34, Township 77, Range 26, west of the 4th Meridian.

Brazeau Tower Road: A road was blazed from Section 2, Township 48, Range 10, west of the 5th Meridian, to Section 7, Township 47, Range 10, west of the 5th Meridian, culverts were installed where necessary and approximately 12 miles of bulldozed road constructed. Approximately $2\frac{1}{2}$ miles remain to be completed.

Nose Mountain Tower Road: A preliminary reconnaissance was made for the location of this road.

LOOK-OUT TOWERS—*Nose Mountain Tower:* A tentative location of the tower site was made. Steel tower has been purchased for this and is at present at Grande Prairie.

Maintenance:

BUILDINGS—Maintenance work was carried out on the following buildings:

Fawcett Lake Cabin; East Prairie Cabin; Slave Lake Ranger Cabin; Slave Lake House; Saulteaux Cabin; Wabisca Cabin; Martin Mountain Cabin; Wasp Creek Cabin; Wabisca Cache; Flat Top Cabin; Swan Ranger Cabin; McGowan Cabin; Ottawau Cabin; West Prairie Cabin; Slave Lake Office and Speeder Shed; Puskwaskau Cabin; Wembley Cache; Grande Prairie Ranger Cabin; Notikewin Cache; Ft. McMurray Boat House, Office, Cache, Workshop and Oil Shed; Gregoire Cabin; Conklin Cabin; Cold Lake Cache; Heart Lake Cabin and Engine House; Whitecourt Cache; Ft. Assiniboine Cabin, Cache and Barn; Whitecourt Tower Cabin; and Buck Mountain Cabin. All these buildings were repaired and, in some cases, additions made and are in good condition.

LOOK-OUT TOWERS—*Whitecourt Tower:* This tower was replaced by a new one on the same site.

Heart Lake Tower: Four 50-foot radio masts were cut and erected. Guy wires and dead men were installed for tower.

TELEPHONE LINES—The Grizzly, Flat Top, Martin Mountain, House Mountain and Deer Mountain lines were maintained, a total of approximately 125 miles. A great deal of work was necessitated on these lines by heavy winds, and soft ground caused by heavy rains.

TRAILS—Notable progress was made in clearing out the old Inverness trail. In addition maintenance work was carried out on a number of other trails as follows:

North Boundary, Freeman, Martin Mountain, Driftwood, House Mountain, Inverness, Holmes, Driftpile, Bear River, Ottawau, Florida Lake, Island Lake, Mitzue Lake, East Prairie, Howard Lake, Calling Lake to Island Lake, Calling Lake to Mink Lake, West Calling Lake, Fish Camp, Sandy Coulee, Labiche River, Wandering River, Wolf Creek, Two Creek, Pass Creek, and Whitecourt Tower Road.

In addition a number of old Indian and other unnamed trails were kept sufficiently open to enable rangers to travel them.

FENCES—Posts were cut for construction of a fence at the Pembina Cabin. The Ft. Assiniboine corral fence was repaired, also the fences around the Slave Lake pasture, Swan pasture and Slave Lake Headquarters grounds.

HEADQUARTERS GROUNDS—Maintenance was carried out on all headquarters grounds, also the Swan Station grounds.

TIMBER

The abnormal demand for timber products continued unabated, but with the help of the recently appointed assistant timber inspectors and a greatly increased use of the ranger staff on the smaller timber inspections, also on operational inspections, we managed to keep fairly well abreast of new applications and also managed to have practically all commercial timber operations inspected at least once and, in many cases, twice during the season, either by a ranger or an inspector.

Not all rangers can be used on this work, however, but the more efficient ones then have a better opportunity for advancement by becoming familiar with the methods used in locating and estimating timber.

There are now approximately 1,800 active logging operations on the Northern Alberta Forest District, exclusive of Settlers' Permits.

The cutting of fire-killed spruce for pulpwood continued to increase. The bulk of this material is taken out under Settlers' Permits.

A great many trucks hauling forest products were checked for invoices and cutting authority. The recently installed checking point near Entwistle proved its value in this work.

CO-OPERATION

The Royal Canadian Mounted Police continued to give us their full co-operation in all possible ways. Co-operation by settlers and the general public seems to be on the increase and we received substantial assistance from the public on several occasions.

PROSECUTIONS

A total of eight convictions were obtained under The Prairie and Forest Fires Act, and eighteen under the Game Act. The greatest value though, from the law enforcement angle, is not measured by the number of prosecutions, but rather by the preventative effect of the patrols made by the ranger staff, also the educational value of personal contact.

GAME AND TRAPPING

The forest rangers on the Northern Alberta Forest District carried out a great many game patrols, checking on over 2,600 registered trap-lines and areas, taking applications for new lines and renewals, also for beaver and muskrat permits, recommending them and, in the northern areas, issuing them. Sealing beaver pelts, checking for snares, recommending issuing of snaring permits for wolves and coyotes were also part of their duties, as well as checking big game hunters for licenses and animals killed. In this connection the Forest Products checking point started in the vicinity of Entwistle last fall again proved its value.

The northern divisions report a scarcity of big game, especially moose; in fact the Lac la Biche division report moose have almost entirely disappeared and only a few deer remain. They also report, wolves scarce, but coyotes and foxes on the increase. As to wolves

the other northern divisions do not agree with Lac La Biche, as they are reported fairly plentiful in most cases. Muskrats appear to be on the increase, but beaver are barely holding their own in most areas excepting the Edson division in the vicinity of Jasper Park and southerly, adjacent to Jasper and Banff National Park. Lynx are reported quite plentiful on the Peace River division near the British Columbia border. Rabbits are still scarce but just starting on the upswing of their cycle. Pintail and ruffed grouse seem to be increasing slightly in the north. The Edson division reports a decrease in the majority of fur-bearers with the exception of squirrels and, as heretofore noted, beaver.

BOUNDARIES

The western part of District No. 6 was deleted from the Edson division and incorporated in the Edmonton division.

No changes occurred in district boundaries. The name of the Westlock division was changed and this is now known as the Whitecourt division.

SUMMARY

The staff functioned extremely well with a very few exceptions. The fire season proved to be the best one experienced for years, and the cost of fire suppression was comparatively light as was also the loss of forest cover. It is hoped that with the acquisition of a bulldozer in 1948 a start can be made on the construction of a network of trails and roads.

Also with the reservation of the Forested Areas from settlement, a start may be made on the re-organization of the Northern Alberta Forest Districts to provide for greater efficiency in protective activities.

The combination of Forest Protection, Timber Administration and Game Protection is working out very satisfactorily and only in a few isolated cases has there been any confliction between the different duties of a ranger.

CROWSNEST-BOW RIVER FOREST RESERVE

Report of the Forest Superintendent, J. P. Alexander

FOREST PROTECTION

The staff of the Forest Reserve was maintained at its authorized strength throughout the year.

(a) *Fire Season:*

Following a winter of unusually heavy snowfall, spring weather arrived about the middle of March accompanied by wet snow flurries and frequent rains. The weather turned moderately warm, forage growth was rapid and as a result of this warm showery weather and rapid grass growth no spring fire hazard developed.

During June and the first half of July our usual seasonal precipitation was received, but from the middle of August the

weather became hot and dry and a short period of high fire hazard occurred.

Heavy general rains received on August 22nd, 23rd and 24th, terminated all danger of fires for the season and from then until winter set in, the weather was cool and showery with frequent heavy snow flurries during late September and October. Early in November a heavy snowfall blanketed the foothills and mountains and this snow remained in the timbered areas throughout the winter.

(b) Fire Prevention

Prevention activities are only applicable to fires originating through human agencies and consist of education of the public by various means of publicity. Posters, radio, lectures, moving pictures, and the direct contact of users of the forest by our staff of rangers were used in the work.

Posters warning of the need of care with fire are prominently displayed at all entrances to the Reserves and fire posters are placed at strategic points along roads and trails.

During the spring and summer months the local radio stations frequently gave short talks on the need of preserving our forests and in the spring the Canadian Forestry Association also gave lectures on the same subject and showed motion pictures at various towns in the vicinity.

Perhaps the most effective method of educating the public is the contacting of the fishermen, hunters and other users of our forests by our ranger staff and the talks that take place between them on Forestry subjects.

19 burning permits were issued during the season.

(c) Fire Detection

Fire detection methods remain the same as those used in former years and depend on our Lookout System and field staff patrols. Some of our small fires are detected by fishermen or hunters, who either put them out or else report them to the rangers.

(d) Fire Suppression

A total of eight fires occurred during the season. Of these six were inside the forest and two on adjacent areas. All of these fires were small and were easily suppressed. No fire crews were employed during the season and no extra labour costs were necessary. Total ranger labour costs for the season on fire suppression amounted to \$44.85. No merchantable timber was burned except on only one-half acre of young growth.

(e) Fire Fighting Equipment:

The supply of fire fighting equipment on this Forest is sufficient for our needs and no new fire fighting equipment was purchased during the past year.

PERSONNEL

The following changes were made in the field staff during the year:

Crowlodge District: Ranger J. H. Boulton retired at the start of the season and Ranger I. B. Frew was transferred from the West Porcupine District to take his place.

Livingstone District: Assistant Ranger J. Morden and R. Eckert were promoted to District Rangers and their places were filled by the appointments of A. N. Holgate and S. C. Moore. Holgate resigned in mid season and his place was filled by the appointment of W. E. Forbes-King. In early December Moore resigned and his successor has not been appointed at the present time.

West Porcupine District: Assistant Ranger J. A. Morden was promoted to District Ranger in charge of the West Porcupine District, upon the transfer of Ranger I. B. Frew to the Crowlodge District.

East Porcupine District: District Ranger R. Mackey was transferred to the Cypress Hills Forest and Asst. Ranger R. Eckert of the Livingstone District was promoted to take charge of the East Porcupine District.

Willow Creek District: Ranger J. Verquin resigned and Ranger H. R. Baker was transferred from the N.A.F.D. to take charge of the District.

Sentinel District: The Asst. Ranger position on the Sentinel District, which had not been filled for some months, was filled in the spring by the transfer of Asst. Ranger A. Borton from the Kananaskis District.

Bighorn District: In the spring Ranger F. Nash resigned and his place was filled by the promotion of Asst. Ranger J. Butler of the Jumping Pound District.

Elbow District: W. Balmer was appointed to fill the Asst. Ranger position in this District.

Jumping Pound District: Asst. Ranger J. Butler was promoted to District Ranger of the Bighorn District and his position was filled by the transfer of Asst. Ranger F. A. Jones from the Aura District.

Kananaskis District: Asst. Ranger A. Borton was transferred to the Sentinel District and his position was filled by the appointment of J. O'Gryzlo.

Aura District: Asst. Ranger F. A. Jones was transferred to the Jumping Pound District in June and this position was not filled until late fall, when J. Elliott, look-out man from the Sentinel District, was appointed to it.

FOREST ADMINISTRATION

Under this heading are considered timber disposal, grazing permits, grazing and miscellaneous uses, such as surface rights, trappers' cabins, roads, etc.

Timber

The demands for lumber and mine timber have remained great, but it has been reported that it is becoming difficult to dispose

of inferior grades of lumber. Production for the year was considerably over the figures for the previous season and revenue from this source was correspondingly higher. Twenty-eight sales were in operation during the year and the revenue collected in timber dues, fees, etc., amounted to \$47,955.08. The products from these sales are listed below.

Sawn lumber green.....	6,421,606 F.B.M.
Sawn lumber dry.....	7,863,384 F.B.M.
Mine Props, 5'-7" tops.....	4,538,423 Lin. Ft.
Mine Props over 7" tops.....	115,820 Lin. Ft.
Mine Props under 5" tops.....	679,487 Lin. Ft.
Mine Ties, dry.....	4,728 Pieces
Power Line Poles.....	2,000 Lin. Ft.
Slabs.....	15 Cords
Fence Pieces.....	55 Pieces

During the year 175 Timber Permits were issued for a total revenue of \$2,956.86 and for material as hereunder:

Sawlogs, green.....	48,500 F.B.M.
Sawlogs, dry.....	2,400 F.B.M.
Mine Props, 5'-7" tops.....	491,835 Lin. Ft.
Mine Props over 7" tops.....	9,000 Lin. Ft.
Mine Props under 5" tops.....	164,000 Lin. Ft.
Fence Rails.....	6,524 Pieces
Fence Posts.....	5,856 Pieces
Fuelwood, dry.....	952 Cords
Building Logs, under 8" top.....	8,036 Lin. Ft.
Building Logs, over 8" top.....	2,080 Lin. Ft.
Telephone Poles.....	7,430 Lin. Ft.
Roof Poles.....	18 pieces
Slabs.....	10 Cords
Laths.....	200,000 Pieces
Pickets.....	850 Pieces

Hay

Two hay permits were issued during the year for a revenue of \$15.75.

Grazing

Grazing conditions during the season were good. At the start of the grazing season grass had grown to such an extent that stock coming off dry feed had to be watched for cases of bloat. Precipitation throughout the year was considerably above normal and except for a brief dry spell, between the middle of July and the middle of August, was well distributed.

Following a severe winter a considerable percentage of the stock entered the reserve in poor condition. The favorable summer season largely overcame this condition but an early heavy snowfall in the fall somewhat reduced favorable results and most stock left the reserve in not better than average condition.

The demand for range again exceeded the allotments and many approvals had to be sent out covering less stock than had been applied for and in some cases applications had to be refused altogether.

For the year a total of 287 grazing approvals were issued covering 21,848 cattle, 947 horses and 4,183 sheep and revenue from this source was \$25,078.53.

Losses of stock during the season was about the natural average for horses and cattle, but unusually heavy for sheep. Total losses re-

ported for the season were 167 head of horses and cattle and 1,060 sheep. It is believed that a number of the horses and cattle reported, as lost, had drifted from the reserve after early snow storms and some of them will undoubtedly turn up. The heavy loss of sheep was partly attributed to killings by bears, but it is believed the greater part of the loss was due to theft. The herder employed by the permittees to herd the sheep on the Yarrow Creek Sheep Range disappeared before the end of the season and it was from his flock that practically all losses were reported. It is suspected that this man must have trucked sheep from the Reserve during the season and disposed of them. The R.C.M.P. are investigating this matter, but with what success we do not know at the present time.

Uses

During the season 119 Permits were issued covering Miscellaneous and Grazing Uses. These Permits cover such Uses as Trappers' Cabins, Stock Associations, Cabins and Corrals, Drift Fences, Oil Well Drilling Sites, Mineral Surface Rights, etc. The Revenue from this source was \$3,288.16.

IMPROVEMENTS

The favorable summer season, free from serious fires, permitted the field staff to spend a fair proportion of their time on improvement work and results compared favorably with past years. Deep snow during the last half of the winter somewhat interfered with improvement work during that period.

Maintenance

Existing improvements were maintained in a satisfactory condition, and all work was carried out by our ranger staff except in the cases of Elbow Road and Kananaskis Road maintenance, where men were hired to operate the government bulldozer and grader. 2,858 man days were devoted to these projects at a cost in ranger labour of \$14,758.05 and an expenditure of \$3,801.65 for materials and wages.

New Construction

During the year work was proceeded with on 13 projects of which three were completed and the remaining 10 are in various stages of completion. The completed projects are: the Bighorn District Radio, Crowlodge District Radio, and Mill Creek R.S. Corral. The incomplete projects are Castlemount R.S. Bunkhouse, Elbow R.S. Garage, Elbow R.S. House, Kananaskis Barn, Livingstone Forks Bridge, Bighorn R.S. Bunkhouse, Bighorn R.S. Storehouse, Aura R.S. Bunkhouse, Canmore R.S. House and Happy Valley Cabin.

On these projects 662 man days were spent at a cost in wages of \$3,621.80 and an expenditure of \$795.58 for material.

STATEMENT OF REVENUE COLLECTED

Timber Sales.....	\$47,955.08
Timber Permits.....	2,956.86
Grazing Permits.....	25,078.53
Hay Permits.....	15.75
Maps.....	22.50
Fishing.....	1,399.43
Game.....	10,029.22
Grazing Uses.....	286.07
Miscellaneous Uses.....	3,002.09
Suspense.....	497.40
TOTAL.....	\$91,242.93

The mileage covered by the entire staff in the course of their duties throughout the season was as follows:

By car or truck.....	105,855 Miles
By Saddle Horse.....	24,854 Miles
By Team.....	4,563 Miles
By Train.....	1,646 Miles
By Boat.....	16 Miles
By Dog Team.....	66 Miles
On Foot.....	4,698 Miles
 TOTAL.....	 141,698 Miles

CLEARWATER FOREST RESERVE

Report of Forest Superintendent, J. R. H. Hall

FOREST PROTECTION

In April the field staff was brought to full strength by the appointment of three trainees from the Alberta Forest Ranger School. J. K. Robins was appointed Assistant Ranger on District No. 2; D. S. Radke, Assistant Forest Ranger on Brazeau West District; and W. R. Dial, Assistant Forest Ranger on Ram District. V. A. Higgins was placed on Brazeau West District as Forestry Trainee, and on May 1st, was transferred to the Brazeau East District, and promoted to the position of Assistant Forest Ranger to fill the vacancy which was created by the transfer of Assistant Ranger Stollings to the Brazeau Forest Reserve. Dial resigned from the Forest Service on May 31st, and Higgins resigned on July 18th.

The staff was at full strength at the end of the fiscal year.

Weather

Snow melted slowly during April and the forest floor was saturated with moisture. Spring rains started on May 8th and during the entire season precipitation in all districts was away above normal. During November there was a heavy fall of snow. On November 9th there was four inches of snow on the forest floor and on November 30th, after several bad snow storms during the month, snow was from fourteen inches to twenty inches deep. The snowfall for each winter month was above normal. At the end of March there was three to five feet of snow on the ground. Several Chinook winds swept over this area during the winter, but these were never of long duration, and did not occur as frequently as in past winters.

The heavy blanket of snow during the past winter prevented the ground from freezing deeply, and there should be an abundance of moisture in the ground this spring.

The weather Bureau at Rocky Mountain House, reports the following precipitation from April, 1947, through March, 1948:

Rainfall

March.....	0.59
April.....	0.79
May.....	2.17
June.....	4.15
July.....	0.99
August.....	3.51
September.....	2.28
October.....	1.30
November.....	0.40
Total:	16.18 Inches

Snowfall

October.....	2.00
November.....	17.50
December.....	5.38
January.....	7.50
February.....	13.94
March.....	8.70
Total:	55.02 Inches

Precipitation on all districts of the Clearwater Forest was much heavier than at Rocky Mountain House.

FIRE SEASON

The fire hazard was low to nil during the entire season. The only period when fire spread rapidly was April 25th through May 7th, when high winds spread fires through old burns where dry grass was very rank.

Fire Prevention

All field staff endeavoured to educate school children and the general public in regard to fire prevention by contacts at hunting and fishing camps, lumber camps and visits to towns adjacent to their districts. The Rocky Mountain House Boy Scouts and Cubs were invited to hold their annual camp near the Red Deer Ranger Station, and our Red Deer District Ranger visited the camp several times and lectured on fire prevention and travel in the woods. The Superintendent and District Ranger spent several hours at the Red Deer Ranger Station instructing Scouts in the use of forest fire fighting equipment for fire suppression. The Rocky Mountain House newspaper gave co-operation by warning settlers regarding the care of fire when clearing land, and to travellers and fishermen in the care of camp fires and the proper extinguishment.

Fire Detection

There was no change in the method of fire detection in the forest. Lookout-man and the telephone operator were at their posts before the fire season commenced, and went off duty after the Forest floor was well covered with snow late in November.

FOREST ADMINISTRATION

Timber

Timber business was fairly light during the past year, owing to cancellation of complete sales during the early part of the year, and the fact that no new applications for Timber Sales could be accepted under the new agreement with the Eastern Rockies Conservation Board. A number of applications were turned down during the year.

Below are listed transactions during the fiscal year:

TIMBER SALES:	
Number of active operations	19
Number of sales not active	1
Lumber, Feet B.M.	6,287,015
Railway Ties	33,343
Piling, Lin. ft.	Nil
Mining Timber (green) Lin. Ft.	752,901
Mining Timber (dry) Lin. Ft.	294,097
Lagging (dry) Lin. Ft.	7,508
Telephone Poles	Nil
Poles, Power Line	2,000
Timber Dues collected	\$44,396.17
Rails (dry)	1,418
Lath	10,000

Eight Timber Sales were cancelled during the year.

No operations were conducted on the Timber Sale No. 431, and the operator states that he was unable to complete construction of a road to the area and, therefore, was unable to cut and manufacture any lumber. He expects to complete his road early this spring.

Number of Timber Permits issued	42
Dues on Timber Permits issued	\$3,072.83

12 of the above permits were cutting permits.

The following amounts of green and dry timber were authorized to be cut:

GREEN:	
Fuelwood	675 cords spruce and pine
Building Logs	2,564 Lin. Ft. pine
Roof Poles	8 pine
Mine Timbers	10,000 Lin. Ft. spruce and pine
DRY:	
Building Logs	640 Lin. Ft. spruce
Roof Poles	40 spruce
Fence Posts	2,600 tamarac
Fuelwood	265 Cords spruce and pine
Mine Timbers	954,600 Lin. Ft. spruce and pine
Saw Logs	20,000 F.B.M. spruce and pine

Two seizures were also made, realizing the amount of \$72.19.

USES

Oil

The following Companies are still drilling in the Clearwater Forest:

Ram River Oils—Prairie Creek—Well No. 3;

Ram River Oils—Clearwater River—Well No. 4.

The Brazeau Oils have renewed their surface rights permit to cover drilling site, but are not drilling at Nordegg, as they are active in the Leduc Field.

The Shell-Home, Shunda Oil and Imperial Oil Companies have moved their drilling rigs to parts unknown, and do not expect, in the near future, to operate their leases in the Clearwater Forest.

MISCELLANEOUS USE PERMITS

The following new uses were authorized during the period April 1st, 1947, to March 31st, 1948:

L. Skov.....	Trapper's Cabin.....	LS. 12 26-38-12-W5M
R. G. Greer.....	Trapper's Cabin.....	LS. 8 18-39-14-W5M
R. G. Greer.....	Trapper's Cabin.....	LS. 5 35-39-15-W5M
D. S. Shanks.....	Timber Haul Road.....	Sec. 6-41-14-W5M; Secs. 1, 12, 13 and 24-41-15-W5M
L. Ross.....	Trapper's Cabin.....	LS. 5-14-42-17-W5M
E. C. Connor.....	Trapper's Cabin.....	LS. 14-15-36-13-W5M
S. McLeod.....	Timber Haul Road.....	N. $\frac{1}{2}$ 2, E. $\frac{1}{2}$ 11, N.W. $\frac{1}{4}$ 12, E. $\frac{1}{2}$ 13- 34-9-W5M; N. $\frac{1}{2}$ 18, S.E. $\frac{1}{4}$ 19 and S.W. $\frac{1}{4}$ 20, S. $\frac{1}{2}$ 28-8-W5M
L. Ross.....	Trapper's Cabin.....	LS. 9 7-43-17-W5M

GRAZING

There was an abundance of feed on all districts during the spring, summer and fall grazing season. Heavy snow on all districts during the winter months prevented horses from grazing and losses are expected to be heavy.

Messrs. Winter and Kilgour held a permit to graze two hundred and thirty-five head of horses in the Clearwater Valley. On account of snow conditions they were forced to move these horses to the Ricinus district during late February and early March. They only located one hundred and eighty-three head of horses and twenty-five of these horses died while being moved to Ricinus.

The total number of stock grazed during the past twelve months is listed below:

Total number of stock grazed under permit.....	2,013
(Includes 440 cattle, grazing from May, 1948, but for which permits were issued in March.)	
Total number of horses grazed under permit.....	1,152
Total number of cattle grazed under permit.....	421
Total number of sheep grazed under permit.....	Nil
Total number of permittees.....	96
Average number of stock per permit.....	20.97

Collections by months are shown below:

April.....	\$ 408.26	October.....	\$ 37.79
May.....	554.65	November.....	200.66
June.....	211.33	December.....	419.70
July.....	98.02	January.....	178.25
August.....	86.63	February.....	37.30
September.....	63.48	March.....	584.22
TOTAL.....			<u>\$2,880.29</u>

A total of forty horses were grazed in trespass.

IMPROVEMENTS

During the period covered by this report, rangers spent 236 man days on new construction work and 1,132 man days on maintenance work.

Work was carried out on twelve construction projects:

Blacksmith shops.....	1
Corrals.....	3
Machine Shed.....	2
Cabins.....	1
Outhouses.....	1
Fences.....	1
Barn and Storehouse.....	1
Wells.....	1
Forest Signs.....	1
	<u>12</u>
	<u>—</u>

PERSONNEL

All positions were filled during April. There have been numerous changes and transfers, and at the end of the year the staff is at full strength.

GAME

The deep snow of the 1946-47 winter was very hard on wild life and losses of big game animals fairly heavy. This past winter has taken a heavy toll of game animals with the exception of moose. Judging from reports received from rangers a large number of elk died of starvation in the area north and west of Nordegg. Rangers have been asked for a report on big game conditions as soon as possible.

Several truck loads of moose have been liberated in the area west of Olds. These animals were secured from Elk Island Park and were hauled and distributed by members of the Olds Fish and Game Association.

Predators have not increased but due to a shortage of rabbits and small rodents, they are taking a fairly heavy toll of big game animals.

Outfitters and Guides reported last Fall that there was a shortage of Big Horn Sheep in the area north and west of Nordegg. Our rangers report that after the Big Game Hunting Season ended numerous bands of sheep were seen in the area mentioned above.

RECREATION

There was an increase in the number of campers, especially in the Red Deer and Brazeau West Districts.

There was a decided increase in the number of American hunters from September 1st through November 30th.

A total of 757 travellers' permits, covering 2,106 persons, were issued.

FISH

A total of 234 Seasonal Licenses and 22 Limited Licenses were issued.

TRAVEL

The following mileages were travelled by personnel of the Clearwater Forest during the period April 1st, 1947, to March 31st, 1948:

Car.....	8,531
Truck.....	41,309
Speeder.....	2,528
Train.....	3,616
Saddle Horse.....	16,342
Team.....	1,248
Foot.....	4,776
TOTAL.....	<hr/> 78,350 <hr/>

BRAZEAU-ATHABASCA FOREST RESERVE

Report of Forest Superintendent, D. Buck

FOREST PROTECTION

Personnel

At the commencement of the fiscal year, after preliminary training at Calgary during the winter months, some 15 or 20 ex-soldiers had graduated from the Forestry Training School and were ready to take their places in the field with the object in view of eventually receiving their appointments as Assistant Rangers.

Four of these men were appointed to this Reserve during April to complete their field training, with one of them (W. G. Chute) coming to us as Asst. Ranger. Consequently all vacancies were filled at the commencement of the fire season with the exception of the Ranger vacancy for the Lovett District. Ranger Stollings later took this place, being promoted from Asst. Ranger in the Clearwater Reserve.

Very good results have been obtained from the trainees appointed to this Reserve. Mr. Chute resigned after suffering an unfortunate accident in the course of his duties. One was transferred to the Crow-Bow Reserve and three remain on this staff, one having been transferred from the Northern Alberta Fire District with headquarters at Edson.

Several promotions were recorded during the past year. Ranger L. P. Gauthier was promoted to Timber Inspector in charge of the Lac La Biche Division; Ranger H. W. Parnall in charge of the Edson Division as Timber Inspector, also, W. L. Richardson to Foreman and Headquarters Ranger. Rangers A. G. Watt and A. H. Prowse to Chief Rangers, and A. H. Haight and E. R. Stanley from Assistant Rangers to Rangers in charge of Districts.

Mr. N. Lind, B.Sc., was appointed Assistant Superintendent during February, 1948. The need for this position has been apparent for some time, in order to afford a more thorough supervision of Timber Sale operations and field staff generally.

(a) Fire Season

After a severe winter with snow reaching such a depth as to force the closing down of several logging operations, the spring of 1947 broke normally with the water table higher than for sometime in the past. The Hydrograph charts, recorded at this office, reveal that scarcely a week passed without rain during the entire season.

On the Brazeau Reserve only one fire occurred throughout the season and this being a Class "A" railway fire which did not damage any timber. The staff on the Athabasca Reserve handled nine fires, five being Class "A", four being Class "B". This, I consider is a very creditable showing and the field staff should be congratulated.

Of the total fires handled, 60% were caused by railway operations and 40% by campers leaving their fires burning. Co-operation shown the Service by the Canadian National Railway employees, Royal Canadian Mounted Police and local residents continue to be excellent.

(b) Fire Detection

Our detection system, in the form of Look-outs, has not been added to and it would be very difficult to select additional sites in order to obtain the best advantage. Of the five Look-out stations within the Brazeau-Athabasca Reserve, two are equipped with 100-watt transmitters, one of these (Adams Creek) is not serviced by telephone, the other three have portable radio sets but rely mostly on telephone communication.

In addition to the five stations mentioned, two radio-equipped stations, situated east of the Reserve and also the one at this Edson office, work closely together in obtaining cross shots on smokes spotted.

The mountainous country west and north-west of Adams Creek Look-out on the Athabasca Reserve is practically uncovered at present and a considerable amount of field work would be necessary if at any time it was decided to locate a Look-out site in the western portion of this Reserve.

(c) Fire Prevention

The Canadian Forestry Association greatly assisted us in this work of showing appropriate films at any point suggested. These films were enjoyed by all who attended the showings and the intended message was enlarged upon by the able talks given by Mr. Roberts.

Boy Scout troops were given every assistance with their camping difficulties, also assistance was given in tree planting programs undertaken by school children.

The number of miles and method of travel by the entire staff in the course of their duties for the past year is as follows:

Auto (including truck).....	77,808 Miles
Railway speeder.....	2,672 Miles
Foot.....	10,097 Miles
Train.....	3,873 Miles
Saddle Horse.....	14,511 Miles
Dog Team.....	792 Miles
Wagon.....	1,391 Miles
TOTAL.....	111,144 Miles

Number of burning permits issued—37.

FOREST MANAGEMENT

In addition to Reserve revenue, this office receives from the Edson Division of the Northern Alberta Forest Divisions, revenue in the form of trappers' cabins and registered trapper certificate fees and this is included with the Reserve revenue. A separate account is kept for monies received in connection with the Edson Division timber operations. The following is a statement of revenue collected:

Timber Sales (dues and deposits).....	\$100,249.68
Timber Permits.....	2,083.41
Grazing Permits.....	1,292.85
Hay Permits.....	1.75
Res. Trappers' Licenses.....	44.00
Miscellaneous Uses.....	1,971.66

O-S Trapper Cabins.....	52.00
Reg. Trapping Certificates.....	800.00
Fur Tax.....	651.66
Angling Permits.....	254.00
Big Game Licenses.....	1,452.50
Sp. Muskrat Permits.....	48.00
Map Sales.....	22.75
	<hr/>
	\$109,924.26
Dr. Suspense.....	69.65
	<hr/>
TOTAL.....	\$109,854.61

At the commencement of the past year, timber dues were increased on the products from logs cut after March 31st. In the case of lumber, the increase was 25%, but on ties, the average increase was 49%. In the latter case, dues on ties manufactured within the Reserve didn't increase when a general raise in dues some years ago went into effect on ties manufactured from Provincial lands.

This raise of dues necessitated a very careful check of logs and material on hand as at March 31st, 1947, and it is only recently that we are entirely clear of the old rate.

Operations which have been conducted, both on sales and under permit, were very satisfactory with only three seizures recorded. I consider the operators co-operated well with regard to the height and diameter of stumps which has now been altered, almost entirely in the case of the tie timber, to 12 inches high and 12 inch diameter from 11 inches and 18 inches. In spruce stands, the stump height limit has been altered accordingly, but the diameter of stumps to which the operator may cut is recommended after careful consideration has been given various factors, such as age of the stand, amount of young growth present and the amount of timber remaining should the limit be set at a certain measurement, etc.

The over-all production from Timber Sales and Permits shows another increase, particularly in the production of lumber which shows a raise of approximately 3,000,000 F.B.M., and of course, since the dues have been raised, the revenue has raised accordingly. A total of \$102,333.07 was collected under this general heading, \$83,087.68 of which was paid on account of Timber Sale dues, \$17,162.00 deposits, both application and guaranteed, and \$2,033.41 permit dues.

The following material was produced from Timber Sales; although 64 Cutting permits were issued, seven were inactive for various reasons:

Number of cutting permits issued.....	64
Lumber F.B.M.	18,751,342
Railway ties, pieces.....	230,116
Mine timbers, green and dry.....	460,680
Slabs, cords.....	1,702
Lagging, round, L.F.....	32,489
Building Logs, L.F.....	9,332
Power Poles, L.F.....	887
Lath, M.....	7,000
Pulp wood, dry, cords.....	216

The following products were manufactured under permits issued:

1 Permit, Mining timbers, L.F.	6,000
6 Permits, Building Logs, L.F.	4,100
4 Permits, Railway ties, pieces.....	3,500
3 Permits, Lumber, F.B.M.	101,000
8 Permits, Fuel wood, dry, cords.....	200
3 Permits, Fence rails, pieces.....	329
1 Permit, Fence posts, pieces.....	414
3 Permits, Pulp wood, cords.....	900

Total products manufactured from the Brazeau-Athabasca Reserve for the year ending March 31st, 1948, is as follows—including Timber Sales, Permits and Seizures:

Lumber, F.B.M.	18,874,342
Railway ties, pieces	233,616
Mine timber, green and dry.....	466,680
Slabs, cords.....	1,902
Lagging, round, L.F.	32,489
Building logs, green, L.F.	13,432
Fence rails, pieces.....	329
Fence posts, pieces.....	704
Pulp wood, dry, cords.....	1,116

IMPROVEMENTS

New Construction

Under this heading, nineteen projects received attention, however, only three were new projects and these were completed satisfactorily. A camp shelter, equipped with stove, table, benches, etc., was constructed on the Branch Highway at Mile 13 (railway mileage). A bunk-house with four rooms, shower, cesspool and cellar was completed at Entrance Headquarters. Twenty miles of secondary trail was constructed, commencing at Hay River cabin in a north-easterly direction to Oldman Creek, then following this creek east. It is hoped to continue this project at a later date in a south-easterly direction to the Athabasca River, where there is a trail leading to Entrance. The completed trail would afford a circular route, covering the eastern extremity of the Athabasca Reserve.

The remaining projects included the completion of those commenced the previous year and minor undertakings, such as corrals, fences or wells.

Maintenance

The rather heavy timber inspection work in some districts naturally reduces the days which otherwise could have been spent on maintenance work; however, 533 Ranger days were devoted to new construction and 1,409 man days to maintenance of improvements. In addition, \$1,202.55 were expended on wages for 303 man days casual labour.

In addition, the lower trail and wagon road, between Entrance and Mile 70, where oil drilling operations are being conducted, has been converted into an auto road by the work of five major oil companies. The Imperial Oil Company Limited assuming responsibility for construction and maintenance, with Mr. Christopherson in charge of the work. This road follows closely the lower trail with but few diversions and was practically completed during 1946-47. This past year saw the construction work completed and a considerable

amount of gravel spread. Some assistance was rendered by the Forestry personnel in location of better grades than the original trail afforded.

Maintenance of improvements has been satisfactory and trails are very passable; however, considerable more work is required to bring most trails back to standard, particularly cutting the Alder, which has grown up in stretches of some of the trails. In order to do this work, additional help would be required.

Miscellaneous

The unlimited demand for coal has developed the strip mine technique wherever possible within the Brazeau-Athabasca Reserve; where a few years ago, such methods were considered impossible, now stands large areas where the overburden, to a depth of from 30 to 40 feet, has been removed and the coal is being mined entirely by power equipment.

Although the coal companies are assisting us by supplying blue-prints of areas to be stripped and applications are being submitted; there is some delay before authority is received to issue permits covering these projects and some have been outstanding for several months. Otherwise the situation as regards Surface Rights is satisfactory. A total of 117 General permits were issued from this office during the fiscal year under review, covering 21 different types of projects.

Grazing

The annual grazing report has been submitted, showing a slight decrease in the number of grazing permits issued and also the number of stock grazed. The only difficulty which arises in this phase of the work is to determine the ownership of stock which has become lost to the owner. The number of stray horses is increasing, especially in the Brazeau Reserve, where horses are brought in from the south and sold to miners on the Coal Branch. These horses often stray back as far as the Brazeau River where they remain on the flats until picked up.

There are large areas within the Brazeau-Athabasca Reserve of ideal grazing land which are untouched each year.

Trapping and Game

A total of 94 trapping certificates were issued last season to registered trappers and very fair catches were reported, including predatory animals for which bounty was claimed.

The system of allowing Beaver to be taken under special permit seems to be the answer to past difficulties in this regard, for although this scheme has been in effect for the past two years, from personal observation and reports received from Rangers, I estimate the Beaver population has doubled during that time.

Many big game hunters at the opening days of last season complained about the scarcity of big game, but as the season drew along to its close, game became more plentiful and outfitters had no difficulty in securing satisfactory heads for their guests, while the local

hunters secured their meat without difficulty. Although I suggest that not as many big game animals were taken as the previous season, this is as it should be and I am pleased to see the bag limit, and the length of season have been recently reduced.

CYPRESS HILLS FOREST RESERVE

Report of Ranger in Charge, R. T. Mackey

FIRE SEASON

A very good fire season was experienced on the Cypress Hills Forest Reserve during the 1947 season.

There was a very heavy snowfall during the winter months, followed by a cold, wet spring which continued until the end of June. The latter half of July and the month of August were dry with the exception of some severe lightning storms. One fire was started by lightning just outside the reserve but was quickly suppressed.

No burning permits were issued.

Detection and Suppression

As in previous years, the ranchers and farmers living near the reserve and all those connected by telephone to Reserve Headquarters, assisted in fire detection.

Fire Fighting Equipment

One Johnson pump and sufficient tools to equip a crew of over a hundred men are on hand. All equipment is in good condition, the pump is in good working order, having been tested several times during the summer. A Fordson tractor is being purchased to work with our light grader in the maintenance of fire-guards.

FOREST ADMINISTRATION

Although this is a small reserve, it is necessary to spend a great deal of time on supervision, as it is completely surrounded by settlers and is accessible at all points. During the summer and fall months a complete patrol of the reserve should be made at least every other day and, at times, every day. Owing to lack of help and necessity of keeping up with other work, proper coverage is not possible. It is suggested that a patrol man be hired for the summer months.

The method of travel and mileage are listed below:

Truck.....	14,034 Miles
Saddle horse.....	2,379 Miles
Team.....	382 Miles
Foot.....	177 Miles
Private car.....	932 Miles
Tractor.....	213 Miles
Train.....	1,338 Miles
Other Means.....	481 Miles
TOTAL	19,936 Miles

Game

The beaver are steadily increasing and going out into the small streams in the prairie regions. The deer were hard hit by the severe winter. The deep snow forced them out of the hills into the surrounding prairie, making it easier for coyotes to prey on these animals, and a large number were killed by these predators.

To date we have not received the squirrels that were to be live-trapped and shipped to Cypress Hills.

Timber

The timber cutting was fairly heavy during the summer months, but snow conditions during the winter months made it impossible to work in the bush.

The Timber cut and revenue derived therefrom is as follows:

Sawlogs, spruce.....	2,475 pieces
Pine poles.....	13,425 pieces
Poplar poles.....	15,160 pieces
Poplar poles, 6-9 inches.....	2,400 lin. ft.
Sawlogs, green poplar.....	6,351 board ft.
Fence posts, green poplar.....	1,290 pieces
Fence posts, green willow.....	9,787 pieces
Fuel wood.....	353 cords
Green pine thinnings, under 3".....	3 cords
Total revenue	\$3,736.21

Silvics

The seed crop was good last season, with one sack of Lodge Pole Pine cones being shipped to Edmonton. The insect rangers from Winnipeg spent ten days in making a survey of the Reserve in June. A. Breitung, of the Department of Plant Pathology and Botany, Ottawa, spent five days in making a collection of the flora on the Reserve. Mr. C. G. Ryley, Plant Pathologist of the same Department, spent one day looking over the timber and experimental plots.

Grazing

The allotment for the Reserve is filled to capacity and it has been found necessary to turn down applications.

Growing conditions were very good throughout the season and there was a good carry over of forage. However, there are two areas of the Reserve which are undergrazed, namely, the east half of the Medicine Lodge, and the south half of the Battle Creek divisions. This is mainly due to the lack of water on these areas. If two or three small dams or dugouts were put in to hold some of the spring run-off these areas could be utilized.

There were 3,200 head of cattle and 204 head of horses grazed on the Cypress Hills Forest, making a total of 3,404 head of stock grazed under permit.

There were 62 grazing permits issued. All permittees being association members.

All stock was checked on entering and leaving the Reserve. This also applied to any stock being moved across the Reserve. This

takes up a lot of the Ranger's time but is necessary, as it eliminates the dropping of stock or the picking up of same on the Reserve.

The past winter was long and very severe, with snow from September to after the middle of April. Spring broke quickly and by the opening day of the grazing season the grass was well advanced. Some stock entered the Reserve in very poor condition.

Miscellaneous Uses

A number of ranchers and farmers adjoining the Reserve rent pasture land, watering and feeding grounds on the Reserve. All these uses are held under yearly permit. It would create a severe hardship on some of the permittees if these uses were not granted, as they have neither water nor adequate shelter on their own property. All the pasture areas are more or less isolated, and the grazing permittees are pleased to have them fenced off, thereby eliminating pockets for stock to hang in.

The total number of permits issued and revenue collected are listed below:

Timber Permits.....	241	Revenue collected.....	\$3,736.21
Grazing Permits.....	62	Revenue collected.....	3,612.50
Misc. Use Permits.....	18	Revenue Collected.....	116.59
Fur Tax collected.....			88.64
Total number of permits, 321.		Total Revenue.....	\$7,553.94

Improvements

All the fire-guards were worked with the exception of the one to the Twin Lakes. This was done with a hired outfit. The telephone line was maintained to the Hansen place with quite a number of poles being reset. 300 poles were cut for the telephone line during the winter and about 800 fence posts for the pasture fences. The telephone line will have to be rebuilt this year.

Time and cost in ranger labour on maintenance:

Telephone lines	32 days.....	\$174.05
Buildings.....	3½ days.....	17.82
Grounds.....	6 days.....	28.60
Fences and corral.....	17 days.....	100.89
Brush disposal.....	20 days.....	99.04
Fireguard roads.....	14 days.....	61.98
Elkwater roads.....	3 days.....	14.13
TOTAL	95½ days.....	\$496.95

Personnel

There has been no change in personnel since the previous report.

Recreation

Graburn Gap and Elkwater Lake are two recreation spots. Trout fishing is popular at Graburn, and pike and perch fishing at Elkwater. Swimming and boating is also done at Elkwater Lake.

There is a need of more camp shelters, streets cleared of bush and built up to make this part of the Reserve a very attractive place in the Southern part of the Province.

Publicity

Publicity has been carried on through meeting and talking with campers, timber men, etc. No time was found to visit the schools. A great deal could be done in this field if time permitted.

COMPARISON OF FIRE LOSSES BY PERCENTAGE

	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
Campers	27.4	28.8	26.0	20.9	31.5	26.8	24.0	18.7	14.9	15.5
Smokers.....	3.6	5.0	4.8	2.2	3.3	7.5	6.5	8.8	5.5	6.6
Settlers.....	14.6	14.8	12.2	22.7	13.9	12.4	14.5	15.1	10.5	7.4
Railways.....	4.2	4.6	6.7	7.6	11.1	22.9	16.0	12.0	21.1	32.8
Lightning.....	2.3	4.0	2.8	1.6	.9	.4	3.4	6.0	4.4	4.1
Industrial Operations.....	1.4	1.4	.6	1.4	3.6	1.9	3.6	3.5	9.5	4.9
Incendiary.....	14.6	9.8	8.9	10.8	6.9	5.7	6.8	6.0	2.9	4.1
Public Works.....	.8	.6	.....	.2	.5	.4	.....	.4	.....	.....
Unclassified.....	9.0	13.4	16.9	8.8	10.2	7.5	6.5	13.4	6.9	.8
Unknown	22.1	17.6	21.1	23.8	18.1	14.4	18.7	16.1	24.3	23.8

RAILWAY FIRE LOSSES, CALENDAR YEAR 1947

This statement deals only with fires burning on forested territory under the supervision of the Alberta Forest Service, and which started within 300 feet of the centre line of the railway right-of-way.

Causes and Number of Fires:

Railway causes:		
Locomotives.....		31
Employees		3
	Sub-total.....	34
Other causes:		
Campers and Travellers.....		Nil
Settlers		Nil
Unknown		11
Unclassified.....		Nil
	Sub-total.....	11
	Total.....	45

Number of Acres Burned:

Slashing or old burn.....	Nil
Timber land.....	288
Young growth	25
Net forested.....	263
	<hr/>
TOTAL.....	576

Loss:

Timber	Nil
Young growth	\$62.50
Forest products.....	Nil
Other property.....	\$5.00
	<hr/>
TOTAL.....	\$67.50

ANNUAL SUMMARY OF FOREST FIRE LOSSES, ALBERTA--CALENDAR YEAR, 1947

FIRE CAUSES	Number of Fires					LANDS AFFECTED							LOSS										SUPPRESSION COSTS			
	CLASS					OWNERSHIP		AREA	CONDITION				TIMBER (MERCHANTABLE AND CUT-OVER)						Loss of Timber	Loss of Young Growth	Loss of Other Property	Total Loss	Ranger Service	Other Expenditure	Total	
	A	B	C	D	Total	Public	Private	Total	Merchantable Timber	Cut-over Timber	Young Growth	Not Forested	SALVABLE			UNSALVABLE										
													Saw-Timber	Other	Deprecia'n	Saw-Timber	Other	Loss								
							Acres	Acres	Acres	Acres	Acres	Acres	Acres	M. Ft. B.M.	Cords	\$	M. Ft. B.M.	Cords	\$	\$	\$	\$	\$	\$	\$	
FIRES INSIDE FOREST RESERVES																										
Camp Fires.....	6	3	...	...	9	2.5	.....	2.5	2	.....	.....	.5	.....	.....	.....	8	25	34.75	34.75	.....	.....	34.75	95.78	23.25	119.03
Smokers.....	1	1	.....	.....	2	1.5	.....	1.5	.....	.....	½	1	.....	4	.....	.....	.....	3.00	3.00	2.50	.....	5.50	28.67	.....	28.67
Railways.....	2	4	.....	.....	6	1.25	.....	1.25	.....	.....	.....	1.25	.....	.....	.....	.....	.....	.....	.....	.....	5.00	5.00	23.62	.....	23.62
Lightning.....	.....	1	.....	.....	1	7	.....	7	7	.....	.....	.....	.....	8	.....	8	.....	32.00	32.00	.....	.....	32.00	18.62	62.00	80.62
Industrial Operations.....	3	.....	.....	.....	3	Spot	.....	Spot	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19.27	.....	.....	19.27
Incendiary.....	1	.....	.....	.....	1	Spot	.....	Spot	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTALS.....	13	9	.....	.....	22	12.25	.....	12.25	9	.....	½	2.75	8	4	.....	16	25	69.75	69.75	2.50	5.00	77.25	185.96	85.25	271.21
FIRES OUTSIDE FOREST RESERVES																										
Camp Fires.....	2	3	2	3	10	14,507½	.....	14,507½	3,761	1,710	5,376¼	3,660¼	.....	.....	.....	602	28,680	13,884.00	11,709.00	6,083.13	.....	17,792.13	446.46	7,970.51	8,416.97
Smokers.....	1	1	4	.....	6	557½	.....	557½	170	.....	45	342½	255	.....	.....	.....	100	40.00	40.00	68.75	.....	108.75	40.36	290.30	330.66
Settlers.....	2	.....	4	3	9	7,500	1,315¼	8,815¼	.....	300	4,255	4,260¼	.....	.....	.....	.....	.....	.....	.....	1,406.25	425.00	1,831.25	39.36	2,121.78	2,161.14
Railways.....	11	16	7	.....	34	197	89¾	286¼	.....	.....	25	261¼	.....	.....	.....	.....	.....	.....	.....	62.50	.....	62.50	86.47	.....	86.47
Lightning.....	.....	2	.....	2	4	9,493	.....	9,493	2	.....	700	8,791	.....	.....	.....	2	.....	4.00	4.00	875.00	.....	879.00	31.81	412.35	444.16
Industrial Operations.....	1	.....	2	.....	3	864	.....	864	389	.....	.....	475	.....	.....	.....	.....	5,635	3,017.50	3,017.50	.....	.....	3,017.50	.....	.....	.....
Incendiary.....	.....	1	2	1	4	2,909½	.....	2,909½	.....	.....	.....	2,909½	.....	.....	.....	.....	.....	.....	.....	.....	.....	68.60	206.65	275.25	275.25
Unclassified.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.50	.....	.....	5.50
Unknown.....	4	6	13	6	29	41,634¼	980¾	42,615	772¾	11,090	4,560½	26,191¼	30	.....	.....	94	5,950	3,576.25	2,876.25	9,611.00	1,089.00	13,576.25	507.77	6,039.76	6,547.53
TOTALS.....	22	29	34	15	100	77,662¾	2,385¾	80,048½	5,094¾	13,100	14,961¾	46,892	285	.....	.....	698	40,365	20,521.75	17,646.75	18,106.63	1,514.00	37,267.38	1,226.33	17,041.35	18,267.68
																							Miscellaneous Expenditure		1,336.66	1,336.66
																									18,378.01	19,604.34
FIRES INSIDE AND OUTSIDE FOREST RESERVES																										
Camp Fires.....	8	6	2	3	19	14,510	.....	14,510	3,763	1,710	5,376¼	3,660¼	.....	.....	.....	610	28,705	13,918.75	11,743.75	6,083.13	.....	17,826.88	542.24	7,993.76	8,536.00
Smokers.....	2	2	4	.....	8	559	.....	559	170	.....	45½	343½	255	4	.....	.....	100	43.00	43.00	71.25	.....	114.25	69.03	290.30	359.33
Settlers.....	2	.....	4	3	9	7,500	1,315¼	8,815¼	.....	300	4,255	4,260¼	.....	.....	.....	.....	.....	.....	.....	1,406.25	425.00	1,831.25	39.36	2,121.78	2,161.14
Railways.....	13	20	7	.....	40	198¼	89¾	288	.....	.....	25	263	.....	.....	.....	.....	.....	.....	.....	62.50	5.00	67.50	110.09	.....	110.09
Lightning.....	.....	3	.....	2	5	9,500	.....	9,500	9	.....	700	8,791	8	.....	.....	10	.....	36.00	36.00	875.00	.....	911.00	50.43	474.35	524.78
Industrial Operations.....	4	.....	2	.....	6	864	.....	864	389	.....	.....	475	.....	.....	.....	.....	5,635	3,017.50	3,017.50	.....	.....	3,017.50	19.27	19.27	
Incendiary.....	1	1	2	1	5	2,909½	.....	2,909½	.....	.....	.....	2,909½	.....	.....	.....	.....	.....	.....	.....	.....	.....	68.60	206.65	275.25	275.25
Unclassified.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.50	.....	.....	5.50
Unknown.....	4	6	13	6	29	41,634¼	980¾	42,615	772¾	11,090	4,560½	26,191¼	30	.....	.....	94	5,950	3,576.25	2,876.25	9,611.00	1,089.00	13,576.25	507.77	6,039.76	6,547.53
TOTALS.....	35	38	34	15	122	77,675	2,385¾	80,060¼	5,103¾	13,100	14,962.25	46,894¼	293	4	.....	714	40,390	20,591.50	17,716.50	18,109.13	1,519.00	37,344.63	1,412.29	18,463.26	19,875.5
SUMMARY BY DIVISIONS																										
N.A.F.D.....	22	29	34	15	100	77,662¾	2,385¾	80,048½	5,094¾	13,100	14,961¾	46,892	285	.....	.....	698	40,365	20,521.75	17,646.75	18,106.63	1,514.00	37,267.38	1,226.33	17,041.35	18,267.62
Clearwater.....	4	2	.....	.....	6	7	.....	7	7	.....	.....	.....	8	4	.....	8	.....	35.00	35.00	.....	.....	35.00	18.62	62.00	80.68
Crowsnest-Bow River.....	5	1	.....	.....	6	.5	.....	.5	.....	.....	.5	.....	.....	.....	.....	.....	.....	.....	.....	2.50	5.00	7.50	71.56	.....	71.56
Brazeau-Athabasca.....	4	6	.....	.....	10	4.75	.....	4.75	2	.....	.....	2.75	.....	.....	.....	8	25	34.75	34.75	.....	.....	34.75	95.78	23.25	119.03
TOTALS.....	35	38	34	15	122	77,675	2,385¾	80,060¼	5,103¾	13,100	14,962.25	46,894¼	293	4	.....	714	40,390	20,591.50	17,716.50	18,109.13	1,519.00	37,344.63	1,412.29	17,126.60	18,538.89
																							Miscellaneous Expenditure		1,336.66	1,336.66
																									\$18,463.26	\$19,875.55

SUMMARY SHOWING TOTAL NUMBER OF FIRES AND BURNT OVER AREA
FROM 1938 TO 1947 INCLUSIVE

Year	Total No. of Fires	Total Acreage	Not Forested	Net Acreage
1938	521	1,758,345.50	842,384.00	915,961.50
1939	499	429,139.25	159,774.50	269,364.75
1940	313	474,244.25	108,597.50	365,646.75
1941	445	1,355,424.50	459,475.00	895,949.50
1942	215	325,815.75	182,208.25	143,607.50
1943	265	515,149.25	409,503.50	105,645.75
1944	325	722,658.00	273,186.25	449,471.75
1945	284	216,736.50	128,263.50	88,473.00
1946	275	272,283.50	179,731.00	92,552.50
1947	122	80,060.75	46,894.75	33,166.00
	3,264	6,149,857.25	2,790,018.25	3,359,839.00

TIMBER CUT UNDER PERMIT, ALBERTA FOREST RESERVES

FISCAL YEAR 1947-48.

Timber Permits	Crow-Bow	Clearwater	Braz.-Atha.	Cypress Hills	Totals
Number of permits.....	175	38	64	241	518
Building Logs (lineal feet).....	10,116	3,204	4,100	.....	17,420
Fence posts.....	5,856	2,600	414	11,077	19,947
Fence rails	6,524	.....	329	28,700	35,553
Fence droppers.....	850	.....	.....	.....	850
Fuelwood, dry (cords)	952	265	200	353	1,770
Fuelwood, green (cords).....	.....	575	.....	.....	575
Lath (pieces)	200,000	.....	.....	.....	200,000
Lumber (feet board measure).....	50,900	.....	101,000	6,351	158,251
Mine timber, dry (lineal feet).....	664,835	10,000	6,000	.....	680,835
Mine timber, green (lineal feet).....	.....	614,600	.....	.....	614,600
Poles, telephone, telegraph (lineal feet).....	7,430	.....	.....	.....	7,430
Railway ties (pieces).....	.....	.....	3,500	.....	3,500
Roof poles (pieces)	18	48	.....	.....	66
Round timber (lineal feet).....	.....	.....	.....	2,400	2,400
Pulp wood, dry (cords).....	.....	.....	.....	900	900

TIMBER OPERATIONS ON ALBERTA FOREST RESERVES FOR THE PERIOD

APRIL 1st, 1947, TO MARCH 31st, 1948

Timber Sales	Crow-Bow	Clearwater	Braz.-Atha.	Totals
Number of active operations.....	28	20	53	101
Building logs (lineal feet).....	.....	.....	9,332	9,332
Cordwood, (cords) .....	.....	.....	216	216
Lagging (lineal feet).....	.....	7,508	32,489	39,997
Lumber (feet board measure).....	14,284,990	2,559,603	18,751,342	35,595,935
Mine timber, green (lineal feet) .....	.....	354,969	460,680	815,649
Mine timber, dry (lineal feet).....	5,333,730	38,691	.....	5,372,421
Piling (lineal feet).....	.....	.....	.....	.....
Poles, telegraph, telephone (lineal feet).....	2,000	2,000	887	4,887
Railway ties (pieces).....	.....	23,327	230,116	253,443
Slabs (cords).....	15	.....	1,702	1,717
Tramway ties (lineal feet).....	.....	.....	.....	.....
Mine ties, dry (pieces).....	4,728	.....	.....	4,728
Fence posts.....	55	.....	.....	55
Lath .....	.....	.....	7,000	7,000

STATEMENT OF TIMBER OPERATIONS FOR THE PERIOD APRIL 1st, 1947 TO
MARCH 31st 1948, ON PROVINCIAL LANDS IN THE EDMONTON DISTRICT
AND IN THE CALGARY AND PEACE RIVER LAND AGENCIES

	Head Office, Edmonton District	Calgary District	Totals
(a) OPERATIONS ON LICENSE TIMBER BERTHS:			
Number of active operations.....	148	21	169
Building logs (lineal feet).....	14,938	.....	14,938
Cordwood (cords).....	3	.....	3
Lath.....	1,038,700	29,950	1,068,650
Lumber (ft. B.M.).....	182,035,635	20,279,338	202,314,973
Mining timber (lineal feet).....	159,006	21,902	180,908
Poles (lineal feet).....	1,255	.....	1,255
Pulpwood (cords).....	20,593	.....	20,593
Railway ties (pieces).....	645,610	41,526	687,136
Slabs (cords).....	2,421	781	3,202
(b) OPERATIONS ON TIMBER PERMIT BERTHS:			
Number of active operations.....	220	66	286
Building logs (lineal feet).....	10,242	.....	10,242
Cordwood (cords).....	167	.....	167
Fence posts.....	.....	8,700	8,700
Fence pickets.....	.....	7,116	7,116
Lath.....	183,000	.....	183,000
Lumber (ft. B.M.).....	79,838,443	9,951,895	89,790,338
Mining timbers (lineal feet).....	71,233	730,435	801,668
Poles (lineal feet).....	100	.....	100
Pulpwood (cords).....	5,058	.....	5,058
Railway ties (pieces).....	78,227	152,781	231,008
Shingles.....	14,000	.....	14,000
Slabs (cords).....	178½	.....	178½
(c) OPERATIONS UNDER SPECIAL TIMBER PERMITS:			
Number of active operations.....	666	91	757
Building logs (lineal feet).....	2,896	.....	2,896
Cordwood (cords).....	263	42	305
Fence rails.....	747	.....	747
Lath.....	97,365	.....	97,365
Lumber (ft. B.M.).....	43,583,823	3,019,385	46,603,208
Mine timber (lineal feet).....	97,765	.....	97,765
Plywood bolts (cords).....	1,257	.....	1,257
Piling (lineal feet).....	2,090	.....	2,090
Pulpwood (cords).....	2,157½	.....	2,157½
Poles (lineal feet).....	32,627	.....	32,627
Posts.....	29,235	.....	29,235
Railway ties.....	249,409	71,434	320,843
Shingles.....	97,000	.....	97,000
Shingle bolts (cords).....	3	.....	3
Slabs (cords).....	580½	.....	580½

ANNUAL STATEMENT OF FIRES BY CAUSES, MONTHLY DISTRIBUTION, ETC., FOR THE YEAR 1947
INSIDE FOREST RESERVES

Cause	Number			Damage \$	Area, Acres	Monthly Distribution											
	A	B	Total	%		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Campfires	6	3	9	40.9	34.75	2.5	---	---	---	1	---	3	---	3	2	---	---
Smokers	1	1	2	9.1	5.50	1.5	---	---	---	1	---	1	---	---	---	---	---
Railways	2	4	6	27.3	5.00	1.25	---	1	---	---	---	1	---	3	1	---	---
Lightning	--	1	1	4.5	32.00	7	---	---	---	---	---	1	---	---	---	---	---
Industrial Operations	3	--	3	13.7	---	---	---	---	---	---	---	1	---	---	---	1	---
Incendiary	1	--	1	4.5	---	---	---	---	---	---	---	1	---	---	---	---	---
Totals	13	9	22	---	77.25	12.25	---	---	1	2	---	8	---	6	3	1	1
Percent	59.1	40.9	---	100	---	---	---	---	4.5	9.1	---	36.4	---	27.3	13.7	4.5	4.5

SUMMARY OF TIMBER OPERATIONS ON PROVINCIAL LANDS FOR THE PERIOD APRIL 1st, 1947 TO MARCH 31st, 1948
PROVINCIAL LANDS*
FOREST RESERVES

	License Timber Berths	Timber Permit Berths	Special Timber Permits	Other Permits	Timber Sales	Timber Permits	TOTAL
Number of active operations.....	169	286	757	3,548	101	518	5,379
Boxwood (cords).....				100			100
Building logs and round timber (lineal ft.).....	14,938	10,242	2,896	64,633	9,332	19,820	112,461
Fence posts.....		8,700	29,235	314,689	55	19,947	372,626
Fence rails.....			747	580,241		35,553	616,541
Fence pickets.....		7,116					7,116
Fence droppers.....						850	850
Fuelwood and cordwood (cords).....	3	167	305	10,516	216	1,770	12,977
Fuelwood, green (cords).....						575	575
Guard rails.....							
Lath.....	1,068,650	183,000	97,365	30,000	7,000	200,000	1,586,015
Lath bolts (cords).....							
Lagging.....					39,997		39,997
Lumber (ft. B.M.).....	202,314,973	89,790,338	46,603,208	16,534,690	35,595,935	158,251	390,997,404
Mine timber, dry (lineal feet).....	180,908	801,668	97,765	844,100	5,372,421	680,835	7,955,795
Mine timber green (lin. ft.).....					815,649	614,600	1,430,249
Mine ties (pieces).....					4,728		4,728
Piling (lineal feet).....			2,090	3,450			5,540
Plywood bolts (cords).....			1,237				1,237
Pulpwood (cords).....	20,503	5,058	2,157½	63,226		900	91,934½
Roof poles (pieces).....				134,444		66	134,510
Railway ties (pieces).....	687,136	231,008	320,843	933	253,443	3,500	1,496,863
Switch ties.....			1,020				1,020
Round timber (lineal feet).....							
Saw logs (pieces).....							
Shingles.....		14,000	97,000	119,340			230,340
Shingle bolts (cords).....			3	36½			39½
Slabs (cords).....	3,202	178½	580½		1,717		5,678
Telephone poles (lineal feet).....	1,255	100	32,627	23,275	4,887	7,430	69,574
Tram way ties (lineal feet).....							
Custom Sawmill Permits.....				392			392
Seizures.....				191			191

*School Lands included in Provincial Lands

SETTLERS' TIMBER PERMITS ISSUED AT EDMONTON, CALGARY AND PEACE RIVER
ON PROVINCIAL LANDS DURING FISCAL YEAR APRIL, 1947 TO MARCH 31, 1948

	Edmonton	Calgary	Peace River	Totals
Number of Permits Issued	1,518	134	1,896	3,548
Building Logs (lin. ft.)	30,141	2,454	32,038	64,633
Mining Timber (all dimensions, lin. ft.)	329,100	515,000	.....	844,100
Telephone Poles (lin. ft.)	15,150	.....	8,125	23,275
Radio Poles (pieces) .....	.....	.....	8	8
Piling (lin. ft.)	250	300	2,900	3,450
Lumber (ft. B.M.)	5,969,185	510,131	10,055,833	16,535,149
Fence Posts (all dimensions)	130,960	30,769	152,960	314,689
Fence Rails (pieces)	52,350	6,700	521,191	580,241
Roof Poles (pieces)	30,400	875	103,169	134,444
Fuelwood (cords)	4,412	750	5,354	10,516
Shingle Bolts (cords)	10	.....	26½	36½
Shingles	14,340	.....	105,000	119,340
Railway Ties (pieces) .....	.....	933	.....	933
Pulpwood (cords)	7,251	.....	55,975	63,226
Lath	30,000	.....	.....	30,000
Boxwood (cords)	100	.....	.....	100

NUMBER OF TIMBER SEIZURES REGISTERED AND SAWMILL PERMITS ISSUED
ON PROVINCIAL LANDS AT EDMONTON, CALGARY AND PEACE RIVER,
FOR THE FISCAL YEAR ENDING MARCH 31, 1948

	Edmonton	Calgary	Peace River	Total
Timber Seizures registered	135	13	43	191
Sawmill Permits issued	265	32	95	392

IMPROVEMENT STATEMENT

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Garages, etc.	Fences	Lookout Towers	Water Supply Systems	Barns and Stables	Telephones (Miles)	Corrals	Bridges	Grounds	Trails (miles)	Cabins	Tourist Stoves	Fireguard Roads (miles)	Radio Portables	Miscellaneous
Cypress Hills.....	...	1	...	...	...	...	...	1	1	...	...	1	...	...	1	...
Crownst.....	2	4	...	...	...	1	...	...	...	...	...	1	...	...	1	2
Bow River.....	...	4	1	...	1	1	...	3	...	...	22	1	...	...	...	...
Clearwater.....	...	7	1	...	...	...	...	...	...	...	2	1	...	...	...	3
Athabasca.....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Braseau.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS.....	2	16	2	1	1	3	...	4	1	...	24	3	...	...	2	5

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones (miles)	Trails (miles)	Roads (miles)	Fences	Corrals	Water Supply Systems	Garages, etc.	Lookout Towers and Cabins	Grounds	Hay Meadows and Pastures	Ferries	Bridges	Miscellaneous
Cypress Hills.....	1	1	1	8	9	18	2	2	1	...	...	3	...	...	...	4
Crownst.....	7	5	8	161	247	137	16	7	1	9	...	10	5	...	...	5
Bow River.....	4	14	9	241½	461½	108	15	8	8	7	...	13	8	...	...	9
Clearwater.....	5	10	5	248½	757½	41½	11	5	...	11	2	7	5	1	...	7
Athabasca.....	3	10	...	82½	401½	131	11	2	2	7	...	2	1	...	...	7
Braseau.....	5	6	3	209½	314	...	9	3	1	8	2	1	1	...	...	4
TOTALS.....	25	46	26	951	2190½	435½	64	27	13	42	4	36	20	1	...	33

IMPROVEMENTS—STATEMENT OF MAN-DAYS WORKED

NEW CONSTRUCTION PROJECTS:

Forest	Houses	Garages, Sheds, etc.	Fences	Lookout Towers	Water Supply Systems	Barns and Stables	Telephones (Miles)	Corrals	Bridges	Grounds	Trails (miles)	Cabins	Tourist Stoves	Fireguard Roads (miles)	Radio Portables	Miscel- laneous
Cypress Hills.....	...	...	...	...	...	...	...	...	...	...	...	2	...	3½	3	...
Crownst.....	338½	4½	...	...	...	31	...	...	...	...	...	41	...	...	11	...
Bow River.....	...	78	1½	...	39	9½	...	59	...	...	...	4	...	...	...	8
Clearwater.....	...	217	30	...	...	...	...	20½	...	...	58	4	...	...	...	123½
Athabasca.....	...	...	14	24	3	8½	...	...	...	...	3½	1	...	...	...	26
Braceau.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	338½	339½	45½	24	42	49	...	79½	...	...	61½	48	...	3½	14	157½

MAINTENANCE PROJECTS:

Forest	Houses	Cabins	Barns and Stables	Telephones	Trails	Roads	Fences	Corrals	Water Supply Systems	Lookout Towers and Cabins	Garages, Sheds, etc.	Grounds	Hay Meadows and Pastures	Ferries	Bridges	Miscel- laneous
Cypress Hills.....	1	1½	1	32	1	2	3	10	3	...	...	6	...	...	...	20
Crownst.....	79	64	28½	429½	87	139½	140½	32½	½	...	25½	140	28	...	...	4½
Bow River.....	40	40	69	341	261½	372	253½	42½	18½	...	41½	55	97½	...	211	30
Clearwater.....	90	17½	46½	236	213½	110½	208	28½	6½	7½	69	32	49	1½	...	16½
Athabasca.....	14	45½	...	159	116½	65	172½	4	14	...	79	17	7	...	...	30
Braceau.....	80½	16½	12	244	176½	3	81	9	2	6	6½	1	4	...	...	40
TOTALS	304½	184½	157	1441½	856	692	858½	126½	44½	13½	221½	251	185½	1½	211	141

ANNUAL STATEMENT OF FIRES BY CAUSES, MONTHLY DISTRIBUTION, ETC., FOR THE CALENDAR YEAR 1947
FIRES INSIDE AND OUTSIDE FOREST RESERVES

Cause	Number of Fires					Damage, Area, %	Monthly Distribution												Fires Inside Provincial Forests												Fires Outside Provincial Forests																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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	A	B	C	D	Total		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Area No.	Area.	Area No.	Area.	Area No.	Area.	Area No.	Area.	Area No.	Area.	Area No.	Area.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

MILEAGE TRAVELLED BY EMPLOYEES OF THE ALBERTA FOREST SERVICE
FISCAL YEAR 1947-48

Divisions	Foot	Saddle	Driving	Speeder	Auto	Canoe	Rowboat	Motorboat	Airplane	Railway	Others	Total
Northern Alberta Forest District.....	28,226	32,471	17,417	15,094	272,067	830	1,501	10,948	4,423	13,153	13,139	408,269
Crowsnest-Bow River Forest.....	4,698	24,854	4,563	105,855	...	...	16	...	...	1,646	66	141,698
Clearwater Forest.....	4,776	16,342	1,248	2,528	8,531	...	...	...	...	3,616	41,309	78,350
Brazeau-Alberta Forest.....	10,097	14,511	1,391	2,672	77,808	...	...	...	...	3,875	792	111,146
Cypress Hills Forest.....	177	2,379	382	932	...	...	...	...	108	1,338	14,620	19,936
Radio.....	167	449	292	...	8,246	...	...	...	1,200	5,052	4,683	20,089
Totals.....	48,141	91,006	25,293	20,294	473,439	830	1,517	10,948	5,731	28,680	74,609	780,488

GRAZING STATEMENT—ALBERTA FOREST SERVICE, 1947-1948

Forest	No. of Permits	No. of Horses	No. of Cattle	No. of Sheep
Cypress Hills.....	62	204	3,200	.....
Crownsnest-Bow River.....	287	947	21,848	4,183
Clearwater.....	87	888	421	.....
Brazeau-Athabasca.....	102	434	77	.....
Totals	538	2,473	25,545	4,183

COMPARATIVE STATEMENT, GRAZING—ALBERTA FOREST SERVICE

	From the Year 1931 to 1947	Average per Year
No. of Permits	8,760	515.2
No. of Cattle.....	383,327	22,548.6
No. of Horses.....	52,754	3,103.1
No. of Sheep.....	82,020	4,824.6

FISH AND GAME ADMINISTRATION

Report of the Fish and Game Commissioner, E. S. Huestis

The activities of the Fish and Game Branches for the fiscal year 1947-48 again showed an endeavor at close co-operation with other administrations throughout the Dominion and with the sportsmen's organizations.

In June, 1947, we received an invitation for the fifth consecutive year to attend the annual convention of the Saskatchewan Fish and Game League at North Battleford. During this convention it was possible to have an exchange of views and to co-ordinate, as far as possible, regulations governing the handling of migratory and upland birds particularly, and also the handling of the antelope herd which roams across the interprovincial boundary just north of the international boundary. It is very desirable to have co-operation between the two adjoining prairie provinces in the handling of birds and animals which are common to both. If one province decides to have a bigger bag or a longer season on migratory birds it would lead to dissatisfaction being expressed by the hunters of the adjoining province, who might feel that there was some discrimination. The same applies in some degree to upland birds, although with these birds, one province may have a larger population and can open the season, while the other would have to remain closed. In the handling of the antelope herd in southeastern Alberta and southwestern Saskatchewan, it is very desirable that this herd be handled as a unit in co-operation with Saskatchewan, and we are also obtaining co-operation from the State of Montana, into which State many of our antelope migrate during the winter months.

There was no meeting of Fishery personnel with those of the National Parks during 1947, as it was decided that such meetings should be held every other year.

The annual meeting of the three prairie provinces with the Dominion Fisheries and the Fisheries Research Board took place in

Winnipeg in October, 1947, and again there was close harmony between the provinces and the Dominion in the solution of the various problems presented in the handling of our commercial fish production, most of which goes to the United States.

The annual meeting of the Alberta Fish and Game Association, held in January, 1948, in the City of Calgary, was a very successful one and it would appear that there was still close harmony between the Association and the administration in matters affecting both parties. The reports submitted by the Fish and Game Branches were well received by the conference and led to an open discussion of many points with which it was necessary that the shooting public be familiar in order that they may assist the administration in the handling of game resources.

During the early part of 1948 correspondence was carried on with the Dominion Wildlife officials at Ottawa. It was felt that bag limits might be raised slightly in view of an over-all increase in the migratory waterfowl population, particularly in the Province of Alberta where there was a greater increase than in either of the other prairie provinces.

A few years ago it was necessary that this province place before the Dominion-Provincial Wildlife Conference the problem of damage to farm crops by migratory birds. Regulations for the handling of migratory birds contained, for a number of years, a clause which allowed the farmer to obtain a permit, on proof of damage to his crops, so that he could take measures to shoot at or kill migratory birds which were destroying his crops. This province, at that time, pointed out that the farmer whose crops were being damaged, was very busy harvesting his crops and could not, by himself, give adequate protection and it would be necessary that he call in outside help. As a result of our presentation of this case there was written into the Migratory Bird Regulations a clause which allowed for a general permit to be issued by Ottawa to cover any of the prairie provinces or any part of any prairie province, which would allow the farmer, without obtaining a permit, to call in as many hunters as he thought necessary to protect his crops from damage.

The introduction of this over-all permit system unfortunately led to an abuse of the privilege granted. The clause was introduced purely for the protection of the farmers' crops, but hunters who were anxious to get in some shooting ahead of the regular season were able to persuade farmers in their districts to invite them out for a shoot on the presumption that damage was being done to the farmers' crop. Under the regulation each hunter was required to obtain written permission from the farmer and a copy of such written permission was to be forwarded to the Game office at Edmonton. A great many hunters were known to shoot ducks on a farmers' fields under this general permit but very few copies of letters were ever received at the Game office.

The logical result of such activities was the abolition of issuance of such general permits except in small areas and under emergency conditions. This placed the farmer again in the position of having to obtain a permit and do his own shooting. As a result of our correspondence, this province was able to obtain additional help for the farmers by the insertion of a clause in the regulations allowing the

farmer, on receipt of an individual permit, to call in two outside persons, giving them written permission to assist him in the protection of his crops. Only two persons could be given written permission for any one day or for any one period. It was felt that this would give the farmer the assistance he required and allow him to continue his harvesting operations.

Another question which caused some discussion was the interpretation of the word "possession" as it refers to bag limits of migratory birds. It had been the policy of this province for a number of years to consider "possession" as "possession in the field." On this basis road blocks were set on roads leading into cities and towns with a view to checking hunters returning from the fields to see that they did not have more than the limit required, which has in recent years, been two days' bag. The Department of Justice at Ottawa recently ruled that "possession" meant possession anywhere, either in the field, in a man's home, in a frozen food locker or at any other point. Under a ruling of this kind a person would have to finish up the season in possession of only two days' bag limit in order to avoid a confliction with the regulation as set.

Another interesting subject dealt with was that of the plugging of guns for the conservation of migratory birds. For some years there has been an over-all ruling throughout the United States that automatic guns and pump guns must be plugged to a maximum of three shells for the shooting of migratory birds. In Canada some provinces had restricted the use of guns to as low as a maximum of two shells. There was, however, no uniformity in the regulations across Canada and it was felt that such uniformity should exist, if possible. As a result, a general regulation was inserted in the Migratory Bird Regulations requiring the plugging of guns which were legal in any province, to a maximum of three shells for the shooting of migratory birds during 1948. In this province, where the automatic shotgun has been banned for many years under the Game Act, this ruling would affect the pump gun only, which would be required to be plugged while shooting migratory birds. With such a ruling in effect it would appear advisable that the Alberta Game Act be amended so as to allow the use of automatic shotguns within the province, plugged to a limit of three shells, and that both automatic and pump guns in the plugged condition should apply for the shooting of all birds, whether migratory or upland.

The meeting of the Advisory Council on fish and game held in June of 1947, dealt with proposed regulations, bag limits, and other matters vitally affecting the fish and game resources of the province. It was decided at the meeting that the population of upland birds other than pheasants had not increased to the extent that an open season could be declared, and as a result the only season on upland birds in the province was on pheasants with a longer season in the Eastern Irrigation District and the Western Irrigation District than in the rest of the province. The Council gave close consideration to the results of ground and aerial surveys made in southeastern Alberta in connection with the antelope population. The winter of 1946-47 had been a very hard one on these animals and the migration back from the United States in the spring of 1947 had not been great. As a result of this survey the Council proposed that there be a closed season on antelope in 1947; and the Province of Saskatchewan kindly co-operated with the province of Alberta in the closing of antelope.

The Council very carefully considered reports on the population of moose and caribou, both species being down in their usual areas. It was decided, however, to allow an open season on these animals, at least for 1947, with the possibility of closing one or both in 1948.

The Council also considered very carefully the continued rise in the number of non-resident licenses being issued within the province. It was felt by the Council that the number of non-resident big game licenses issued had not reached the danger point, but with areas in which the season on big game animals was allowed in the United States being drastically restricted, it was thought that more and more American hunters would be coming to this province where we still have a good population of most big game animals. It was the feeling of the Council that with the continued increase in licenses, which are more than doubling each year, the price of the license to the American hunter should be raised as a small deterrent. It was also felt that there should be very careful supervision of all outfitters and guides within the province to see that they were of the best calibre obtainable, so that our guests from the United States or from other provinces would be assured of a good trip under careful management, and get the trophies to which they were entitled under their license. The Game Act requires that each non-resident hunter have a guide and the number of non-resident hunters who can be accommodated within the province is governed by the number of competent guides securing licenses.

The principal changes in regulations recommended by the Advisory Council and finally adopted were as follows:

1. The taking of caribou was limited to one male rather than one of either sex.
2. The area for the taking of moose was restricted in order to conserve this animal, particularly in the southern portion of the province.
3. Hungarian partridge, which had been opened in 1946, was closed in 1947.
4. A new bird sanctuary was set up on the water area and land surrounding Kirkpatrick Lake.
5. The non-resident general game license, which in 1946 allowed for the shooting of both big game and birds, was confined to big game licenses only and a separate license was required for the taking of birds.

The provincial pheasant hatchery at Brooks continued during 1947 to be extremely valuable. In this area of high concentration of pheasants, eggs are carefully gathered under the supervision of our Game Officer so that only those eggs which would have ultimately been destroyed by cultivation of fields, flooding, or burning of ditches, are taken. Even if the collection of eggs was indiscriminate, we are advised by our biologists that the pheasant hen will, on losing her first clutch, immediately start in to lay a second clutch, which will probably have more chance of survival than the first. The second clutch is usually laid during a period when there is no possibility of frost, which has in some years taken a rather heavy toll of our pheasants in that area.

The distribution of pheasants was confined during the year to a few areas which had been carefully examined with a view to locating the best possible habitat for their introduction. It was considered a waste of effort to attempt to introduce pheasants in all parts of the province due to the fact that many areas were not suitable. During the year 4,061 birds were distributed in the following areas:

Red Deer	500
Cardston.....	500
Edmonton.....	500
Turin and Cranford	500
Lacombe (Castor).....	500
Standard.....	600
Olds.....	500
Brooks.....	311
Calgary Zoo.....	150
	<hr/>
	4,061

The question of predators, particularly coyotes, came in for considerable discussion amongst farmers and others during the year under review. Many complaints were being received by the Department from farmers in connection with the loss of livestock. An attempt was made by the Department to work out a co-operative arrangement with the Sheep Breeders' Associations of the province to place coyote hunters in areas where there was high concentration of sheep. Unfortunately, these negotiations were not brought to a successful conclusion.

The principal method used throughout Canada and parts of the United States in connection with coyotes, wolves and cougars for their eradication is the payment of bounty on these animals when they are taken. At various conferences attended, both in the United States and in Canada, where administrative officials from most States and Provinces on the North American Continent were present, it was unanimously agreed that the payment of bounty is not the solution to the predator problem. Predation, particularly by coyotes, occurs in certain distinct areas where there is a high concentration of livestock. When bounty is paid, it is not only paid on coyotes taken from those particular areas, which would be beneficial, but it is also paid on coyotes taken from vast areas of the province where little or no damage is caused to livestock. During the year under review the amount paid out in bounty in Alberta was a great deal higher than in any previous year in the history of the province. Bounty at \$5.00 each was paid on 29,237 coyotes at a cost to the Government of \$146,185.00. During the same period bounty was claimed on 1,143 wolves at \$15.00 each during the summer months and at \$12.00 during the winter months, and 15 cougar were presented for bounty at \$15.00 each, the over-all expenditure for this type of bounty being \$173,785.94. In spite of this heavy expenditure, reports coming from districts of the province show that coyote predation is still a factor which must be considered by livestock owners.

The question of sport fish in the streams of this province is still one of the important problems with which the Department has to deal. During 1947 surveys were continued on sport fishing streams, particularly in the foothills and mountains of southwestern Alberta. It is the intention of the Department to continue these surveys until all streams have been carefully examined, with a view to determining

the best possible policy in the handling of these streams so that the angler can expect good fishing at all times.

In addition to the surveys conducted by this administration, funds were made available by the Calgary Power Company for a survey by Dr. Rawson of the University of Saskatchewan on the Bow River watershed to determine, if possible, the effects of power development on this stream in their relation to sport fishing. The findings of this report will be of great interest to the anglers in this particular area as well as to the Department.

The question of enforcement of the Fish and Game Regulations is one that is consistently before the public and is one of vital concern to the Department. We have at our disposal a limited number of Fish and Game Officers, and the R.C.M.P. Detachments throughout the province give very valuable assistance but have very many other duties to perform along with the enforcement of our regulations. From time to time we receive bitter complaints from individuals, particularly sportsmen belonging to fish and game associations. These people claim that very grave infractions are going on; in some cases their information is second-hand, but in many cases the complainant has actually observed the breaking of the law. In cases of this kind, if the complainant would be prepared to lay information against the party concerned it would help our enforcement very materially. It would appear that the sportsmen of the province should be interested enough in the preservation of our wildlife resources to see that their fellow sportsmen do not break the laws. Possibly a friendly warning is all that is necessary. If a warning is ineffectual the complainant should then lay information against the party concerned and the Department will be only too pleased to carry out the details of the necessary prosecution of the offender. It is felt that if the sportsmen of the province would assist the enforcement officials to this extent we could cut down very materially on infractions of the regulations.

We wish to express our appreciation to the Royal Canadian Mounted Police for their very able assistance in law enforcement. We would also like to express appreciation to the newspapers and the radio stations for publicity in connection with new regulations and their consistent attempt to bring before the public items of interest in connection with fishing and hunting. The co-operation of the Alberta Fish and Game Association is appreciated. This association, with almost 10,000 members, is of necessity a very important factor in the handling of our wildlife resources. We are pleased to see the formation of a provincial outfitters' association and a provincial trappers' association. We feel that the outfitters and the trappers will, in these associations, be able to speak with one voice and present their problems to the Department for consideration.

FISHERIES

Report of the Superintendent of Fisheries, H. B. Watkins

The commercial catch of fish during the year shows a decrease of 1,176,051 pounds from the previous year's total of 11,072,598 pounds. The largest decline was in whitefish, 873,252 pounds, while pickerel and lake trout declined 224,223 pounds and 90,506 pounds

respectively. Pike production was increased by 117,093 pounds for a total of 702,239 pounds, but no significant changes are noted in the catch totals for perch and tullibee.

The decrease in production of the more valuable species such as whitefish and pickerel is not accounted for by a lessened fishing effort but is attributable to a severe winter kill in a number of our northern lakes last winter. Such waters as Lac La Biche and Utikuma Lak were seriously affected and the effects of the kill will be reflected in small catches for the next few years. Other lakes in the northern part of the province suffered to a lesser degree and their fish populations should recover more rapidly. Winter kill of fish in lakes is not uncommon but rarely do we experience losses such as these in our commercial producing waters.

Dying fish were first observed in Lac La Biche some time after the spring break-up. In one mile of beach examined most of the dead fish which had washed ashore were yearling tullibee. From the water's edge inshore for about 25 feet these tullibee covered the beach. An average of 112 per square yard were counted. In the mile about six suckers and a dozen large tullibee and whitefish were also seen dead upon the shore. Oxygen determinations were made and it was found from 30 feet down not enough oxygen was present in the water to support fish life. During the late winter, just before the break-up, this oxygen deficiency probably extended to the surface.

Two factors appear to have contributed to this spring's mortality:

- (1) The ice cover remained about two weeks longer than usual;
- (2) The usual strong spring winds did not blow.

The ice slowly rotted and melted. The water was not stirred up. Thus the fish were subjected to a longer period without oxygen renewal. As late as July 22nd the oxygen deficiency had not been repaired. There seems little doubt that, due to these circumstances, the fish, particularly the sensitive yearling tullibee, died of asphyxiation.

As in former years a very high percentage of the more desirable table fish were exported to the U.S.A. markets and eastern Canadian centres. Of the total whitefish take of 1,776,629 pounds, export permits were issued for 1,433,657 pounds; the Chicago markets receiving 902,584 pounds, New York 350,520 pounds, and Canadian points outside Alberta 180,193 pounds. It is estimated that less than 20 per cent. of the whitefish caught in Alberta are used for home consumption. High percentages also apply to pickerel and lake trout exported from the province—out of 388,243 pounds of pickerel caught, 367,524 pounds were exported; and 19,252 pounds of lake trout out of a total of 21,372 pounds also found their way outside the province. Total exports accounted for 2,152,703 pounds of fish. It can readily be seen the fisherman must depend upon the wholesale exporter for his income and our fish products must, lacking sufficient home consumption, be shipped on a buyer's market.

Since price ceilings on Canadian fish were lifted by the U.S.A. authorities, it has become only too evident in Alberta that our production is subject to a buyer's market, with resultant lower prices to the fisherman. Alberta fish returns have not kept in line with the higher prices paid for other products. The value of the year's catch to the fisherman was \$449,155.56, a decrease of \$151,136.87 from the

previous year; the marketed value was \$856,496.06, presenting a corresponding decrease of \$484,043.89.

Royalties collected on commercial fish amounted to \$19,571.70 for the year. This sum is \$567.40 less than the amount collected during the winter season of 1946-47 when fish royalties first became payable.

The demand for tullibee by fur farmers again taxed lake production to the utmost and the situation was, as it might well be expected, aggravated by the mortality of fish through winter kill, which has already been referred to.

Lesser Slave Lake was called upon to cope with an emergency again last fall and considerable quantities of tullibee were shipped from the district. Annual catches of tullibee from Lesser Slave Lake have shown a marked increase over a period of years. From 1913 to 1934 the catch averaged 26,000 pounds per year and never reached 100,000 pounds in any one year. From 1935 to 1939 the catch averaged 63,140 pounds; from 1940 to 1946 the annual average catch was 1,632,530 pounds. During the fiscal years 1946-47 and 1947-48, the catches were 3,556,587 pounds and 4,502,568 pounds respectively. At the onset of the increased fishing in 1940 the fish in the catch were 80 per cent. six-year-olds or older; by 1943 the age composition had shifted to younger fish—only 57 per cent. were six-year-olds or older; by 1945 the age composition had further changed to 47 per cent. six-year-olds or older; in 1947 only 0.5 per cent. of the fish were six-year-olds, and 89 per cent. were two-year-olds or less. From 1941 to 1943 two-year-olds did not appear in the fishery.

It would appear that the tullibee have in the last few years been overfished and it is of considerable interest to note the effect of this overfishing in relation to *Trienophorus* reduction in the whitefish population. From studies made and data collected by Dr. R. B. Miller, it is evident that when the tullibee population of Lesser Slave Lake consists of young fish the infestation of *Trienophorus* cysts becomes very small. The data also show that, since the tullibee is the principal second immediate host of the parasite, the small parasite population in the tullibee results in a small parasite population in the whitefish as well. From 1944 to 1947 the average of cysts per 100 whitefish has decreased from 265 to 26, the average of cysts per 100 pounds from 102.7 to 10.5, and the percentage of fish infested from 30.8 to 6.8. That this reduction is not just random fluctuation is shown by the figures for cysts per 100 fish of each age group. Significant numbers of fish were examined in the three- to seven-year-old age groups, and it can scarcely be chance that there is a consistent reduction in the number of cysts in each of the age groups from 1944 to 1947.

The record of the age composition of tullibee populations in Lesser Slave Lake since 1941 suggests that the present preponderance of young fish has resulted from overfishing, and although the tullibee gear may take some of the young of other species of fish the damage done is not commensurate with the achievement of significantly reduced infestation.

Biological Surveys. Under the direction of Dr. R. B. Miller, of the Zoology Department, University of Alberta, a number of important surveys were made during the year. A summary of the

investigations and the recommendations which suggest themselves from the data obtained are included herein but details of the investigations are omitted for the sake of brevity.

McLeod River drainage: The main McLeod River offers little or no hope for good fishing. The history of the Rainbow trout planted would probably be repeated for other species. The poor food is perhaps due to heavy silting in spring run-offs. The poor cover is characteristic of the open and exposed valley through which most of the river flows. Continued planting in the main McLeod does not seem advisable. The upper part, as far downstream as the big bend south of Mercoal looks suitable for Brook trout.

While the food situation is poor in all the McLeod tributaries so far examined, it is not hopeless; the Rainbow trout planted should do better, but since they do not, it seems advisable to try another species which may be better suited. The tributaries covered by this investigation are roughly divisible into two groups—fast, clear-water streams, and slower, brown-water streams. It is recommended that Brook trout be planted in the former group and Loch Leven trout in the latter group. Distributions would, therefore, be as follows:

Brook trout—Sulphur Creek, Whitehorse Creek and Luscar Creek, tributaries to the McLeod River; Coalspur Creek, tributary to the Embarras River.

Loch Leven Trout—Embarras River, from Embarras station to the McLeod River;

The lower tributaries of the Embarras, McNeill and Lambert Creeks;

The lower tributaries of the McLeod, Sundance, Wolf, Muskeg, Carrot and 35 Mile Creeks, also including the Lobstick River.

Anglers should take note that nature is against them in the McLeod drainage; high water, silting and possible severe winter conditions produce water with a very low fish-carrying capacity.

Jumping Pound drainage: The main Jumping Pound rises at 6,900 feet and flows approximately 50 water miles to join the Bow River at 3,700 feet. More than half the total fall takes place in the first eight miles. The upper Jumping Pound from its source to the Forest Reserve boundary is moderately fast, from 2 to 2.5 miles per hour; the bottom is coarse rubble and boulders; the pools are very few and not deep. At normal water level the channel may be waded anywhere. Bottom samples were taken at intervals and yielded an average of 0.2 cc of food per square foot. This is exceedingly poor and the small quantity is probably due to spring flooding and low temperature. No fish were found in the upper waters in early June; on June 19th a few small Cutthroat were found near the Forest Reserve boundary. In August Cutthroat trout were quite numerous in this section, and a few Dolly Varden were also found. The ratio of Cutthroat to Dolly Varden trout is about thirty to one. A few Rocky Mountain whitefish ascend to the vicinity of Sibbald Creek. No suckers or minnows were discovered and no Rainbow trout were taken or seen in anglers' catches which were examined. The upper Jumpin Pound is poor in food, pools and cover. It will support a few Cutthroat trout but it is unsuitable for Rainbow trout.

The middle Jumping Pound was examined near the Forest Reserve boundary and a two-mile stretch upstream from Muskeg Creek. The river is wider here and rather shallow, with a rubble bottom. There are a few pools and not much bank cover and considerable braiding has occurred. Beaver are active along this portion and two beaver dams were observed. The bottom food is somewhat richer than the upper section but is still poor, running about 0.5 cc per square foot. A few Cutthroat trout, Rocky Mountain whitefish and suckers were found.

The lower Jumping Pound from Little Jumping Pound to the Bow River is not very different from the middle section, it is wider and deeper and carries a greater load of silt. One beaver dam near the bridge was examined. It has caused the deposition of silt on the rubble stream which has killed much of the bottom life. The bottom food is poor—0.5 cc per square foot. No trout were seen in the lower section; instead suckers, chub and Rocky Mountain whitefish were observed.

Sibbald Creek. This little stream is about 3 miles long and from 2 to 4 feet wide with numerous deep pools and a dense bank cover of tangled alders and willow which entirely conceal the stream for most of its length. The bottom is silty and deficient in food. Twenty-eight Cutthroat and three Dolly Varden were examined; the Cutthroat were all small, 3 to 8 ounces, 12 were three-year-olds, 11 four-year-olds and 2 five-year-olds. Not one Rainbow was found in Sibbald Creek.

On a meadow, high above Sibbald Park, lies a small lake of several acres. In the spring this drained to the Jumping Pound; later in the summer the level falls so the creek does not run from the lake. This little lake (here named Roop's Pothole) was examined as a possible Rainbow trout lake. A series of soundings showed it to be 15 to 16 feet deep with steeply sloping contours. A plankton haul from 12 feet to the surface was moderate and in the deeper parts dredgings yielded a poor fauna (2.4 cc per square foot) consisting of midge larvae. Around the shore there was an enormous fauna of fresh-water shrimps, *Gammarus*. Also in the shallow water a large fauna of Caddis larvae was living. The only fish present is the Stickleback, *Eucalia inconstans*. An experimental planting of Rainbow trout is recommended in this lake.

Little Jumping Pound in its lower reaches during August is reduced to a trickle and appears unsuitable for trout. Better conditions may prevail upstream. No definite data on the upper reaches were made during this survey.

The main Jumping Pound stream is cool and moderately swift, subject to spring flooding and poor in pools and cover. It is deficient in food in most parts. The tributaries, though smaller, are essentially the same. Muskeg and Sibbald are the best because of good pools and cover which they offer. A too rapid run-off in the spring results in frequent low-water conditions in the fall with consequent winter-kill. No trace of the 34,000 Rainbow trout planted since 1941 was found and the young Cutthroat have probably grown up in the stream since the last winter-kill.

Highwood River drainage: The Highwood River may be described as beginning at the foot of Mist Mountain (5,700 feet) at the junction

of Storm and Mist Creeks. It flows eastward through a broad valley for about 90 water miles to enter the Bow River at an elevation of 3,100 feet. The Highwood is thus much less torrential than the Sheep and, with its broader valley, presents quite a different aspect. The upper Highwood valley, once heavily timbered, is now without living timber. The slopes are covered with fire-killed deadfall and very little regeneration is taking place. The soil is dry and friable, almost ashy; the river becomes dirty within a few minutes after the beginning of a rain storm.

The twenty miles of the Highwood which lie within the Forest Reserve are swift, shallow, broad, badly braided, with shifting bottoms and changing banks. Pools are very few, shallow and wholly exposed. The bottom food is very meagre; the quantity per square foot is about 0.2 cc.

Outside the Forest Reserve the river improves a great deal. The stretch from Sullivan Creek to Longview is much deeper, with less braiding and many fine pools.

Storm Creek: This stream, about ten miles long, descends from 7,000 feet at an average drop of 130 feet per mile. It flows at 5 miles per hour and is too swift and torrential to make a good trout stream. There are no pools, no cover and the channel is braided, shallow and exposed.

Mist Creek: This creek, about five miles long, descends at a velocity of 3 miles per hour. The twenty-foot channel is without pools or cover, except bottom boulders. The bottom food is more plentiful than in Storm Creek and amounts to 0.3 cc per square foot.

Odlum Creek: Enters the Highwood about two miles below Storm and Mist Creeks. Four and one-half miles long, it descends from 7,000 feet at an average rate of 300 feet per mile. While this is a rapid fall, there are long, fairly quiet stretches with fine pools and excellent overhanging bank cover. The food supply is good. This creek is too cold for Cutthroat trout but appears suitable for Eastern Brook trout.

Loomis and Bishop Creeks: These two small creeks have a fair food supply, abundant bank cover in upper portions but are too cold for Cutthroat trout. Eastern Brook trout should do well in these streams.

Lineham Creek: About four miles long, enters the Highwood six miles below Storm and Mist Creeks. The food is fair but the temperature very low, has a few pools and a fair cover of willow on the banks. Possibly Eastern Brook trout might be established; too cold for Cutthroat.

McPhail and Carnarvon Creeks: McPhail Creek is a little over five miles long and its tributary, Carnarvon Creek, is about four miles long. Both streams are very cold. The upper stretches of McPhail are shallow and exposed with no pools or cover; the lower parts have some excellent deep pools with mossy undercut banks and overhanging willows; food supply is very good, 1.4 cc per square foot. The lower part of Carnarvon has some good pools and heavy willow cover; food supply is rich. Both streams are too cold for Cutthroat but might make fair Eastern Brook streams.

Cat Creek: Enters the Highwood about two miles below McPhail; shallow with no pools or cover; appears to offer no habitat for trout.

Etherington Creek: About seven miles long, enters the Highwood 14 miles below Storm Creek, food supply rich for the district, amounts to 1.7 cc. per square foot. Etherington is evidently subject to flooding; evidence of water six feet above normal. A beautiful appearing stream with good food supply and moderately good pools and cover. Probably too cold for Cutthroat trout; Eastern Brook trout might become established.

Cataract Creek: Joins the Highwood approximately 17 miles below Storm Creek; about 12 miles long and descends at an average of 80 feet per mile. A very beautiful stream, rather cold and has very little quiet water in the lower reaches. Plantings of Eastern Brook trout might be attempted above the falls.

Trap (Flat) Creek: Enters the Highwood about nine miles outside the Forest Reserve boundary; 17 miles long and descends at an average of approximately 90 feet per mile. The stream is about 30 feet wide with pools every 50 to 100 yards with rapids between. Pools are open and exposed with cover provided mainly by large boulders. The stream appears to be good Cutthroat water with a food supply of 1.1 cc. per square foot. Previous plantings of Rainbow trout have left no trace. Occasional plantings of Cutthroat may prove desirable.

Sullivan Creek: About ten miles long, descends at an average of 70 feet per mile; a gentle stream with a beautiful succession of deep, quiet, shaded pools and dense vegetation on the banks. The food supply is moderate to rich. The Cutthroat trout, very numerous, are fairly well grown but possibly would do better if not so crowded. The creek supports a large fish fauna, common suckers, Cutthroat trout and Dolly Varden. The Cutthroat and Dolly Varden occurred in the ratio of 53 Cutthroat to 4 Dolly Varden; no trace of former plantings of Rainbow trout were found.

Pekisko Creek: About 15 miles long, 30 feet wide over most of its length and is, therefore, larger than Sullivan Creek. In other respects it is very similar with the same abundance of sheltered, quiet pools and warm water. Pekisko has a fine population of Cutthroat trout, a few suckers and a few Dolly Varden. No trace of Rainbow trout were found.

The upper Highwood and tributaries downstream to Cataract Creek are very fast, cold streams; and possibly are suitable for Eastern Brook trout; the lower Highwood provides good Rainbow water, while the tributaries below Cataract are all Cutthroat trout streams.

Sheep River drainage: Sheep River rises west of Cougar Mountain at an elevation of 7,000 feet. It runs approximately seventy water miles eastward to enter the Highwood River at an elevation of 3,000 feet. Half of the total descent occurs in the first 12 miles where the gradient is 167 feet per mile. This is a steep stream gradient, almost torrential; it is slightly steeper than the Elbow River. Considerable stretches of the upper Sheep run through narrow gorges; this combined with the steep gradient, make many reaches of very fast water. Large stretches of rubble bottom provide good shelter for trout but it is lacking in pools and bank cover. Food conditions are generally poor,

the water is too cold for Rainbow trout; the lower parts should be planted with Cutthroat trout and the upper parts with Eastern Brook trout on an experimental scale.

Junction Creek: This little stream is about six miles long, enters the Sheep River approximately twelve miles from its source. This water is too cold for Cutthroat or Rainbow trout and appears to be an ideal Brook trout stream.

Blue Rock Creek: Enters the Sheep River less than one mile below Junction Creek, is too cold for Cutthroat or Rainbow trout. Experimental plantings of Eastern Brook trout should be made.

Gorge Creek: About eight miles long, enters the Sheep approximately 4.5 water miles below Blue Rock Creek; the upper half is swift and precipitous but the gradient in the lower four miles is moderate. This creek, warmer than Junction or Blue Rock Creeks has a large population of Cutthroat trout. No trace of former plantings of Rainbow trout was found.

Dyson Creek: About five miles long, enters the Sheep River 1.5 miles below Gorge Creek. Much of Dyson Creek runs through a rocky gorge but some places have sloping banks with willow cover. This stream is also too cold for Rainbow trout and no trace of previous Rainbow plantings could be found. This stream also suggests itself for Eastern Brook trout.

Coal Creek: Rises at 5,500 feet and descends to the Sheep River at 4,600 feet; the north and south branches are each about three miles long and the main branch about six miles, and enters the Sheep River approximately five miles below Dyson Creek, and directly across the Sheep from Camp Sandy McNab. Although rather cold, Coal Creek is a beautiful Cutthroat stream. Most of the trout present are two, three and four-year-olds, and appear to be stunted in growth through overcrowding. Rainbow trout are not suited to this water.

Wolf Creek: Rises at 5,000 feet and descends five miles to the Sheep at 4,000 feet, 1.5 miles below Coal Creek. The stream averages about 12 feet wide and 8 inches deep with a boulder and rubble bottom. Pools are numerous and provide good cover both from trees and undercut banks; and appears to be a good Cutthroat stream.

North Fork of Sheep River: Rises at 6,000 feet and descends for 37.5 water miles to enter the Sheep River at 3,700 feet. In its lower reaches the North Fork is slow, murky, braided and shallow, with exposed shallow pools. In and near the Forest Reserve the stream has a fine population of Cutthroat trout. One hundred and sixty-six trout were examined from this section and all except one were Cutthroat trout, the exception was a Dolly Varden. The only other fish seen were Common and Northern suckers. Rainbow have not taken to these waters.

Ware and Fisher Creeks: The lower waters of these two streams do not look promising for trout, being slow and from slightly muddy to very dirty. Better conditions prevail in the upper reaches where Cutthroat trout are reported.

The North Fork and its tributaries dried to mere trickles in 1934-1935 and froze to the bottom in the winter. In Ware and Fisher Creeks this is probably a common occurrence.

Graburn and Battle Creeks: These two creeks rise in the Cypress Hills area of Alberta and flow in an easterly direction. About a quarter-mile from the Saskatchewan border Graburn Creek flows into Battle Creek which flows into Saskatchewan and then south to join Milk River in Montana. Numerous beaver dams provide pools in Graburn Creek and were it not for these it is doubtful if all-year-around flow would continue. The stream bottom is heavily silted and poor in food supply. There are numerous small feeder springs of fine, cold water, but their flow is slight and fail to produce a large flow in the main channel. Battle Creek is a larger stream with approximately 10.5 miles of water in Alberta. The stream supports an extraordinarily large number of beaver. In places the beaver dams are less than 100 yards apart and the ponds, lying one below the other, give the effect of a long, gentle stairway. Despite the slow current the ponds are not too warm but warm enough to stimulate the growth of a rich supply of water bugs, snails and midge larvae, which live on the weeds and in the bottom mud. These pools should be well adapted for Brown or Loch Leven trout.

Bassano Dam: The portion of the Bow River affected by the dam extends upstream for several miles; the deepest water is a few yards above the dam, approximately 31 feet. Elsewhere it is much shallower; one-half mile above the dam it is only 14 feet, and as the dam itself is much deeper than this it must be concluded that the reservoir is more than half filled with silt. Due to the heavy silt load in the water the transparency is low—only a few feet on a clear, quiet day. The reservoir created by the dam is apparently too silty to attract fish. It is very poor in food for young fish, and possesses bottom food chiefly available only to such fish as suckers. If fish, such as pickerel or trout, were planted here they would undoubtedly move out. A rich and varied fish fauna is found in the Bow River below Bassano dam and samples taken included pickerel, Common sucker, Red Horse sucker, Northern sucker, whitefish, Rocky Mountain whitefish, Goldeye, and an abundance of the spot-tail minnow. Trout are also found and those examined proved to be the same as those found further up the Bow River at Carseland and Calgary, and have the characteristics of a hybrid between Cutthroat and Rainbow trouts.

Elkwater Lake: Lying at the foot of the Cypress Hills, is a popular holiday resort for Medicine Hat people and the only watering-place in the district. The lake has a surface area of 450 acres; over half the lake is less than ten feet deep, has a small area 25 feet deep near the lake centre and another small area 24 feet deep in the west arm. The lake is a warm, shallow, alkaline body of water with excessive weed growth and a tendency to become a marl lake. There are apparently only two species of fish present, pike and perch. The production of these is limited by absence of forage fish, a rather poor plankton and average bottom fauna. The warm water, however, produces excellent growth of both the pike and the perch. Because of the present lack of water flow through the lake there is not too much chance of pickerel surviving even if introduced.

Glenmore Reservoir: At full level the reservoir is approximately 1.5 square miles. The deepest water, 48 feet, is about one-quarter mile above the dam; the middle stretch runs from 20 to 30 feet; the large area at the southern end is quite shallow, mostly from 8 to 15 feet. The water is quite warm, but not too warm for trout. There

is no thermal stratification and warming proceeds pretty well to the bottom. The production of food is very poor and conditions have not improved in the nine years since 1938. The low plankton and bottom fauna production is possibly due to the silt carried in by the Elbow River. This reservoir is not likely to support a large fish population. Trout are rare in the reservoir, are found only in or near the river mouth. There is no evidence of a migration into the reservoir in the fall or out of it in the spring.

Distribution of fish: A total of 1,017,969 trout, perch and minnows were planted during the year, an increase of 449,069 over the previous year. In line with the present day fish cultural practice, as many yearling fish or older were distributed as was found practicable. The important watersheds, such as the Bow River, received 328,700 trout; the Red Deer 153,000; the Old Man 156,800; the Athabasca 111,133; the North Saskatchewan 64,900, and the remainder making up the total of 1,017,969 were distributed in various other streams and lakes. A detailed planting statement, showing species, ages and waters which received the fish is included later in this report.

Angling pressure has shown a marked increase since 1945 when in that year 6,930 Angling Permits were issued. This year 10,947 anglers took out licenses, an increase of 4,017 in two years. Water in the foothill streams maintained a higher level throughout the winter than in some years past and prospects for improved conditions are promising for the year to come. At the time of this report very few losses of trout have been reported through winter low water conditions.

FISHERIES

REVENUE:

	1946-47	1947-48
Fishing Licenses	\$ 24,571.00	\$ 19,257.00
Fish Dealer's Licenses	2,310.00	2,535.00
Boat Licenses.....	110.00	165.00
Angling Permits	20,753.19	23,897.99
Royalties.....	20,139.10	19,571.70
Casual.....	878.43	1,306.78
	<hr/>	<hr/>
	\$68,761.72	\$66,733.47
Decrease, \$2,028.25		
Licenses and Permits	14,707	14,875
Prosecutions.....	123	83
Confiscations	115	63
Commercial Fish Catch (lbs.).....	11,072,598	9,894,272

PROSECUTIONS:

Fishing without license	35	12
Excess of per diem limit	2	...
Fishing out of season	21	11
Using illegal gear.....	4	3
Pollution.....	3	...
Using firearms illegally .....	...	4
Illegal possession of fish.....	8	14
Illegal sale of fish	5	3
Using gill nets in stream .....	...	...
Operating illegal nets.....	26	25
Operating nets without markings.....	10	1
Operating nets other than licensee.....	2	...
Operating nets in closed area	4	7
Obstructing a Fishery Officer in line of duty.....	3	3
	<hr/>	<hr/>
	123	83

DEPARTMENT OF LANDS AND MINES

COMMERCIAL PRODUCTION OF FISH

Species	1943-44 (lbs.)	1944-45 (lbs.)	1945-46 (lbs.)	1946-47 (lbs.)	1947-48 (lbs.)
Whitefish.....	2,374,532	2,655,016	3,253,621	2,649,881	1,776,629
Trout.....	21,716	21,492	79,860	111,878	21,372
Pike.....	585,519	430,150	657,837	585,146	702,239
Pickrel.....	840,164	994,659	846,083	612,466	388,243
Perch.....	128,628	152,643	205,047	244,957	200,685
Tullibee.....	3,596,665	3,319,306	3,374,524	6,688,432	6,514,847
Mixed Fish.....	210,297	152,105	167,033	179,838	292,532
Totals	7,757,521	7,725,371	8,584,005	11,072,598	9,896,547

	Weight (lbs.)	Value to Fisherman	Value as Marketed
Totals for year 1943-44	7,757,521	\$481,498.25	\$973,777.86
Totals for year 1944-45	7,725,371	418,653.49	863,138.28
Totals for year 1945-46	8,584,005	742,098.48	1,451,717.14
Totals for year 1946-47	11,072,598	600,292.43	1,340,539.95
Totals for year 1947-48	9,896,547	449,155.56	856,496.06

LICENSES AND PERMITS

	1943-44	1944-45	1945-46	1946-47	1947-48
Angling Permits (Seasonal).....	5,920	6,296	6,503	9,038	10,099
Angling Permits (Limited).....	460	355	427	629	848
Domestic Licenses.....	522	417	479	87	89
Fisherman's Licenses.....	2,868	3,323	4,700	4,643	3,603
Commercial Licenses.....	124	142	173	130	104
Fish Dealers' Licenses.....	...	...	...	82	105
Motor Boat Licenses.....	3	4	6	17	27
Totals	9,898	10,539	12,288	14,707	14,875

QUANTITIES AND VALUE OF FISH CAUGHT AND MARKETED

Species	Period	Weight (lbs.)	Value to Fisherman	Value as Marketed
Whitefish	May 16, 1947 to Sept. 30, 1947	1,424,019	\$ 28,880.88	\$ 68,514.10
	Dec. 1, 1947 to Dec. 31, 1947	180,569	14,727.12	38,993.12
	Jan. 1, 1948 to March 31, 1948	1,172,041	165,277.65	285,064.04
		1,776,629	\$208,885.65	\$392,571.26
Trout (Lake)	May 16, 1947 to Sept. 30, 1947			2,084.30
	Dec. 1, 1947 to Dec. 31, 1947	7,444	521.08	3,720.75
	Jan. 1, 1948 to March 31, 1948	13,928	1,142.75	
		21,372	\$1,663.83	\$ 5,805.05
Pickerel	May 16, 1947 to Sept. 30, 1947	337,847	\$ 26,449.44	\$ 71,065.42
	Dec. 1, 1947 to Dec. 31, 1947	29,028	2,549.44	5,278.60
	Jan. 1, 1948 to March 31, 1948	21,368	2,481.59	4,433.61
		388,243	\$31,480.47	\$80,777.63
Pike	May 16, 1947 to Sept. 30, 1947	254,379	\$ 7,523.10	\$17,732.94
	Dec. 1, 1947 to Dec. 31, 1947	110,249	4,191.58	7,896.04
	Jan. 1, 1948 to March 31, 1948	337,611	18,678.41	34,349.02
		702,239	\$30,393.09	\$39,978.00
Tullibee	May 16, 1947 to Sept. 30, 1947	4,514,847	\$109,380.84	\$192,918.84
	Dec. 1, 1947 to Dec. 31, 1947	1,846,593	45,930.48	79,708.41
	Jan. 1, 1948 to March 31, 1948	134,761	3,623.11	6,849.18
		6,514,847	\$158,934.43	\$279,536.43
Perch	May 16, 1947 to Sept. 30, 1947	166,922	\$ 8,544.54	\$ 22,578.66
	Dec. 1, 1947 to Dec. 31, 1947	5,194	303.40	639.36
	Jan. 1, 1948 to March 31, 1948	28,569	2,931.83	4,843.08
		200,685	\$11,779.77	\$28,061.10
Mixed Fish (Ling, Suckers)	May 16, 1947 to Sept. 30, 1947	136,233	\$ 2,565.25	\$ 4,357.36
	Dec. 1, 1947 to Dec. 31, 1947	79,617	1,526.17	2,644.84
	Jan. 1, 1948 to March 31, 1948	76,682	1,926.90	2,764.39
		292,532	\$ 6,018.32	\$ 9,766.59
Totals		9,896,547	\$449,155.56	\$856,496.06

COMMERCIAL CATCH—1947-48.

Lake	No. of Licenses	Ling	Tullibee	Suckers	Perch	Pickeral	Pike	Trout	Whitefish	Total
Amisk.....	5	975	21,770	210	390	390	2,815	.....	.....	26,550
Baptiste.....	9	.....	15,523	.....	100	240	2,960	.....	.....	18,825
Beaver.....	60	433	435	.....	45,791	38,530	33,223	.....	15,351	133,763
Birch.....	2	.....	.....	.....	.....	.....	1,020	.....	.....	1,020
Bischo.....	13	.....	.....	.....	.....	3,120	.....	.....	50,260	53,380
Blackett.....	4	.....	1,878	.....	333	2,328	5,179	.....	.....	9,718
Bobtail.....	5	.....	.....	.....	.....	100	100	.....	880	880
Bourque.....	12	.....	.....	.....	.....	100	100	.....	12,777	12,977
Buck (46-6-5).....	235	2,000	.....	50	.....	1,188	4,620	.....	58,268	66,126
Buck (65-17-4).....	34	.....	2,456	.....	5,565	37	65,140	.....	6,604	79,802
Burnt.....	6	.....	.....	.....	.....	.....	.....	.....	14,300	14,300
Calving.....	60	34,200	76,550	31,350	1,170	8,090	10,800	.....	12,330	174,490
Chain.....	1	.....	.....	.....	.....	.....	225	.....	.....	225
Chin.....	90	.....	.....	.....	.....	.....	3,050	.....	26,600	29,650
Chip.....	21	.....	.....	.....	.....	.....	42,970	.....	.....	42,970
Christina.....	9	.....	19,523	.....	814	.....	2,141	.....	.....	22,478
Chump (Johnson).....	1	.....	.....	.....	225	1,320	2,235	.....	.....	3,780
Cold Lake.....	126	3,000	.....	2,500	.....	746	25,350	3,981	96,390	131,967
Crooked.....	1	.....	.....	.....	.....	.....	300	.....	.....	300
Cross.....	4	.....	.....	.....	.....	.....	300	.....	.....	300
Elinor.....	10	.....	145	.....	508	3,316	4,471	.....	2,412	10,852
Fawcett.....	2	20	1,370	.....	.....	50	.....	.....	7,950	9,390
Fickle.....	2	.....	.....	.....	.....	.....	.....	.....	500	500
Fork.....	3	.....	.....	.....	538	.....	480	.....	.....	1,018
Frenchman.....	3	.....	.....	.....	1,151	.....	3,863	.....	.....	5,014
Frog.....	29	.....	.....	3,030	.....	46,150	5,610	.....	17,258	72,048
George's (Cheecham).....	1	.....	.....	.....	.....	.....	17,542	.....	.....	17,542
Ghost.....	2	.....	.....	295	225	.....	2,775	.....	.....	3,295
Goodfish.....	14	.....	.....	58	68	214	365	.....	20	725
Gregoire.....	2	.....	.....	.....	.....	1,153	540	.....	.....	1,693
Heart.....	8	.....	11,519	.....	3,613	1,371	26,381	.....	17,653	60,537
Helena.....	5	.....	.....	.....	236	4,991	3,696	.....	27	8,950
Hope.....	7	.....	2,810	.....	334	800	2,035	.....	23,420	23,420
Ipiatik.....	15	.....	.....	.....	.....	.....	.....	.....	1,909	3,438
Ironwood.....	5	.....	.....	.....	100	627	802	.....	.....	8,438
Island (67-24-4).....	3	.....	.....	75	100	.....	5,250	.....	.....	5,425
Iale.....	2	.....	.....	.....	.....	.....	5,000	.....	.....	5,000
Jackson.....	7	.....	560	.....	47	461	253	.....	.....	1,321
Kinnaird.....	5	.....	4,514	.....	1,519	10,597	5,028	.....	.....	21,658

COMMERCIAL CATCH, 1947-48—Continued

Lake	No. of Licenses	Ling	Tullibee	Suckers	Perch	Pickrel	Pike	Trout	Whitefish	Total
Lac La Biche.....	C 13 {	18,208	22,988	39,374	98,576	5,523	53,736	---	4,534	242,939
Lac Ste. Anne.....	F 136 {	89	257	---	---	6,423	729	---	45,975	53,384
Lawrence.....	6	5,400	---	9,350	---	---	9,600	---	---	24,350
Leaser Slave Lake.....	C 91 {	107,296	4,502,568	9,556	12,160	82,964	72,765	---	225,412	5,012,721
Little (62-11-5).....	F 108 {	2	---	---	---	---	200	---	2,500	2,700
Little Egg (Biolo).....	3	---	---	---	2,981	---	418	---	---	3,399
Long (63-19-4).....	8	---	540	---	2,470	---	7,120	---	---	10,450
Marie.....	15	2,325	---	3,170	---	4,370	3,165	---	86,150	99,180
McGregor.....	121	---	---	---	---	---	940	---	127,798	128,738
McLeod.....	2	---	---	33	---	---	15	---	3,500	3,548
Meyer.....	4	---	---	---	---	---	7,000	---	---	7,000
Misawawi.....	1	---	---	---	575	2,699	---	---	---	3,274
Moore.....	2	1,350	66,000	1,800	---	2,645	2,460	---	---	74,255
Moose.....	34	200	15,976	---	82	2,405	197	---	9,563	28,423
Mosquito.....	32	---	---	---	1,335	4,783	4,038	---	5,243	15,399
Murlet.....	226	1,000	---	---	---	---	400	---	101,200	102,600
Newell.....	90	2,200	---	800	---	---	20,000	---	219,592	242,592
Orloff.....	3	---	110	---	---	60	110	---	225	505
Peetles.....	18	---	---	---	---	---	---	17,391	47,498	64,889
Phillips.....	1	---	---	---	271	---	150	---	---	421
Pinehurst.....	82	---	1,246,782	---	13,572	22,707	23,297	---	---	1,306,358
Primrose.....	29	600	800	1,800	---	15,728	841	---	64,705	84,474
Rock Island.....	8	1,400	200	700	---	2,275	2,750	---	7,150	14,475
Sandy.....	14	2,400	12,450	---	---	400	975	---	10,050	26,275
Shining Bank.....	4	---	---	---	---	---	---	---	5,000	5,000
Siebert.....	9	---	1,105	---	---	---	1,580	---	1,697	4,382
Skeleton.....	8	150	7,450	---	40	50	1,600	---	105	9,395
Snipe.....	3	---	---	---	---	---	24,000	---	---	24,000
Sterner.....	25	---	---	---	---	---	15	---	14,259	14,274
Sturgeon.....	15	---	---	---	---	962	122	---	25,720	26,804
Touchwood.....	15	---	78,206	---	3,798	2,442	144,359	---	---	228,805
Twin.....	2	---	---	---	---	---	---	---	4,472	4,472
Utikuma.....	41	---	279	---	---	8	82	---	2,715	3,084
Wabamun.....	1,422	---	---	---	---	---	---	---	369,117	369,117
Whitefish.....	142	---	350,558	---	1,998	24,155	4,323	---	9,288	390,322
Winnfred.....	11	---	8,000	---	---	80,644	7,000	---	---	95,644
Wolf.....	38	600	41,780	4,367	---	861	22,753	---	17,232	87,593
Totals.....	3,698	184,014	6,514,847	108,518	200,685	388,243	702,239	21,372	1,776,629	9,896,547

NUMBER AND VALUE OF VESSELS, BOATS, FISHING GEAR AND EQUIPMENT

	1943-44		1944-45		1945-46		1946-47		1947-48	
Vessels, Boats	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
Row	186	\$ 3,420.00	146	\$ 3,340.00	132	\$ 6,134.00	359	\$ 9,180.00	143	\$ 3,820.00
Gasoline	208	86,380.00	181	55,850.00	222	83,380.00	292	106,800.00	257	82,020.00
Diesel	1	5,900.00	1	5,900.00	1	5,900.00	....	.....	....	.....
Barges	3	16,000.00	3	16,000.00	3	16,000.00	....	.....	2	400.00
	398	\$111,700.00	327	\$81,090.00	358	\$111,814.00	651	\$115,960.00	402	\$ 86,240.00
Piers and Wharves										
Summer	9	\$ 4,474.00	20	\$ 5,040.00	31	\$ 7,000.00	37	\$ 8,370.00	51	\$ 21,335.00
Winter	6	2,300.00	6	2,300.00	20	8,600.00	93	11,230.00	10	370.00
Fish Plants and Ice Houses										
Summer	23	\$16,847.00	127	\$ 42,245.00	63	\$ 34,750.00	180	\$ 44,920.00	150	\$ 81,185.00
Winter	10	3,350.00	41	31,400.00	41	74,600.00	75	39,670.00	46	9,657.00
Gill Nets										
May 16 to Sept. 30	4,697	\$ 93,940.00	3,803	\$ 65,360.00	5,716	\$ 95,529.00	6,387	\$102,404.00	5,222	\$ 81,329.00
Dec. 1 to Dec. 31	3,665	64,970.00	2,738	37,926.00	3,700	49,238.00	6,304	66,856.00	1,613	\$ 20,894.00
Jan. 1 to March 31	8,806	137,532.00	7,043	92,888.00	12,949	194,817.00	10,140	165,304.00	6,890	74,880.00

FISH AND GAME ADMINISTRATION

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EASTERN BROOK DISTRIBUTION, 1947

ATHABASCA RIVER:		Yearlings
McLeod River.....		25,000
Coalspur Creek.....		225
Luscar Creek.....		493
Whitehorse Creek.....		950
Sulphur Creek.....		2,100
Tie Creek.....		200
NORTH SASKATCHEWAN RIVER:		
Shunda Creek.....		15,000
Alford Creek.....		18,000
Prairie Creek.....		10,000
North Prairie Creek.....		10,000
RED DEER RIVER:		
North Raven River.....		15,000
Raven River.....		27,000
Grant Creek.....		8,000
Spring Creek and Dams.....		18,000
Beaver Creek.....		10,000
Dogpound Creek.....		8,000
Butcher Creek.....		8,000
Smith Dams.....		5,000
Bearberry Creek.....		10,000
James River.....		10,000
Crooked Creek.....		4,000
BOW RIVER:		
Big Hill Creek.....		5,300
Prairie Creek.....		2,700
Loomis Creek.....		6,700
Elbow River.....		4,200
Pirmez Creek.....		5,000
Bragg Creek.....		5,000
Junction Creek.....		4,700
McPhail Creek.....		6,000
Dyson Creek.....		6,500
Quirk Creek.....		5,000
Highwood River.....		1,200

RAINBOW DISTRIBUTION, 1947

OLD MAN RIVER:		Fingerlings	Yearlings
Crownsnest River.....		13,500	11,800
Castle River.....			16,000
Jim Creek.....			4,000
South Willow Creek.....			4,000
Brown Creek.....			8,500
Trout Creek.....			8,500
Johnson Creek.....			2,000
North Willow Creek.....			2,000
Old Man River.....		36,000	4,000
Screwdriver Creek.....		5,000	
George Creek.....		3,000	
Lynx Creek.....		4,000	
Lost Creek.....		3,000	
Gold Creek.....		4,000	
Allison Creek.....		4,000	
Byron Creek.....		7,500	
Pincher Creek.....			8,000
Todd Creek.....			1,000
Blairmore Dam.....		1,000	
Beaver Creek Dams.....		6,000	
WATERTON RIVER:			
Yarrow Creek.....			5,000
Drywood Creek.....			2,600
Pine Creek.....			2,600
Lees Creek.....			6,500

BOW RIVER:

Ghost River.....	.....	2,000
McLean Creek (Dams).....	6,000	.....
Boulton Creek.....	.....	30,000
Sheep River.....	.....	35,000
Lyman Crossing.....	.....	30,000
Sullivan Creek.....	.....	20,000
Flat Creek.....	.....	20,000
Pekisko Creek.....	.....	30,000
Bragg Creek.....	.....	35,000
Fish Creek.....	.....	15,000
Elbow River.....	.....	22,000
Robinson Creek.....	.....	3,000
Bow River.....	.....	21,000
Waiporous Creek.....	.....	1,000
Meadow Creek.....	.....	1,000
Pirmez Creek.....	.....	5,000

LAKES:

	Fingerlings	2-Year-Old
Beauvais.....	.....	1,900
Square.....	39,754	.....
Burnstick.....	40,000	.....
Pot Lake (Jumping Pound).....	.....	202

LOCH LEVEN DISTRIBUTION, 1947

ATHABASCA RIVER:

	Fingerlings	Yearlings
Edson River.....	10,000	.....
Lobstick River.....	5,900	.....
Carrot Creek.....	6,000	.....
Sundance Creek.....	6,400	.....
Wolf Creek.....	6,500	.....
Emharras River.....	18,900	.....
Muskeg Creek.....	6,490	.....
Lambert Creek.....	6,500	.....
McNeil Creek.....	6,490	.....
Trout Creek.....	8,985	.....

NORTH SASKATCHEWAN RIVER:

Wolf Creek.....	.....	5,900
Horseshoe Creek.....	.....	6,000

RED DEER RIVER:

Crooked Creek.....	4,000
Dog Pound Creek.....	26,000

BOW RIVER:

Big Hill Creek.....	400
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PERCH DISTRIBUTION, 1947

Hastings Lake.....	2,000
Whitewood Lake.....	1,000
Jackfish Lake.....	15,000
Lost Lake.....	15,000
Dried Meat Lake.....	20,000
Clear Lake.....	31,880

MINNOW—SPOT TAIL

Elkwater Lake.....	20,000
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ALBERTA FISH EXPORTS
Fiscal Year 1947-48

Exports to Canadian Markets:

Whitefish.....	180,193 lbs.
Pickereel.....	38,925 "
Pike.....	23,050 "
Perch.....	11,399 "
Trout.....	8,663 "
Tullihce.....	20,003 "
Suckers.....	145 "
Total.....	282,378 lbs.

Exports to Chicago Markets:

Whitefish.....	902,584 lbs.
Pickereel.....	316,062 "
Pike.....	101,438 "
Perch.....	130,894 "
Tullibee.....	9,137 "
Trout.....	10,409 "
Suckers.....	16,557 "
Total.....	1,487,081 lbs.

Exports to New York Markets:

Whitefish.....	350,520 lbs.
Pickereel.....	12,512 "
Pike.....	13,739 "
Perch.....	5,908 "
Trout.....	180 "
Total.....	382,859 lbs.

Exports to Miscellaneous U.S. Markets:

Whitefish.....	360 lbs.
Pickereel.....	25 "
Total.....	385 lbs.

Recapitulation:

Whitefish.....	1,433,657 lbs.
Pickereel.....	367,524 "
Pike.....	138,227 "
Perch.....	148,201 "
Trout.....	19,252 "
Tullibee.....	29,140 "
Suckers.....	16,702 "
Total.....	2,152,703 lbs.

GAME BRANCH

Report of Game Superintendent, D. E. Forsland

During the fiscal year under review the Game Branch has continued its policy of previous years in rendering the best possible service to the general public. In rendering this service it is, of course, necessary to carefully weigh and scrutinize all suggestions and recommendations rendered to the Game Branch from trappers, hunters, members of the Fish and Game Associations and others interested in game and fur conservation. Generally speaking the outlook is very favourable,

this is particularly the case in the fur industry, even though the so-called long-haired fur is still in very poor demand. Big game has held up well under the terrific pressure of hunting. As can be seen from a comparison of licenses sold during the present fiscal year with the big game and game bird licenses sold during the previous fiscal year there is a continued increase of the number of hunters in Alberta. For instance, the number of non-resident general game licenses increased from 281 in 1946 to the unprecedented number of 344 for the season now under review. A proportionate increase is recorded in the sale of non-resident bird licenses, as well as the resident bird game licenses.

Upland game birds are still in short supply and although the Sharp-tailed Grouse and Hungarian Partridge show a decided increase the Department considered it good conservation to have a closed season on all upland birds with the exception of Ring-neck Pheasants during the year 1947.

Migratory birds did show a remarkable increase during the season under review and from all reports received from the hunters, as well as from our Game Officers, geese were more abundant than has been the case for many seasons past. If we are fortunate enough in having a favourable hatching season during 1948 a great increase in the number of migratory birds can be expected.

In enforcing the Game Regulations the Department has had wonderful assistance from the Royal Canadian Mounted Police. As in previous years both officers and other ranks have shown great willingness to assist the Game Branch in every way possible. Our Game Officers are always assured of a courteous reception and very valuable assistance whenever they call on the Royal Canadian Mounted Police in connection with their work.

Big game has held its own in spite of the great increase in the number of hunters. The only big game animals which have shown a decrease in numbers appears to be the Rocky Mountain Bighorn Sheep and the Woodland Caribou, and unless a decided improvement takes place within the next few months it will become necessary for the Department to extend further protection to these two species. The hunting of big game plays a large part in the tourist traffic of the Province and this season has seen a large increase in the number of non-resident non-Canadian big game hunters.

For a clearer and more concise picture of the game situation in the Province and work performed by the Branch during the fiscal year under review, the report is submitted under the following headings:

Migratory Game Birds

During the season 1947 there was a heavy production of ducks in the southern portion of the Province, the area south of Edmonton providing an extremely good nesting season. During the latter part of the summer and early fall ducks and geese were unusually plentiful. The Province of Alberta is fortunate in that the northern and central portions are important nesting grounds for migratory birds, and the Province will always have a comparatively plentiful supply of migratory birds, even though the over-all picture in other provinces is not promising. The supply of Geese was heavier than it has been

for many years and most of the hunters were able to obtain their bag limit of this particular waterfowl.

As in other years, the Department received numerous complaints about damage to crops by ducks. The district known as the Eastern Irrigation District and the area south of Calgary were particularly infested by these birds and special permits were issued to farmers in these areas in order to either disturb the ducks or to shoot a certain number of ducks causing this damage.

Upland Game Birds

Although upland birds are undoubtedly on the increase, this being particularly noticeable in the case of Prairie Chicken and Hungarian Partridge, the Department considered that there was not sufficient increase to warrant an open season. The Ruffed Grouse has not increased to the extent shown by the Sharp-tail Grouse (Prairie Chicken), and it is expected that it will be necessary to keep a closed season on these birds for the 1948 season at least. With a favourable hatching season in the spring of 1948 the outlook may be considerably improved.

The Ring-neck Cock Pheasants have shown a slight reduction in number throughout the Province. Whether this is caused from the heavy hunting or the unfavourable hatching season is difficult to establish. It is generally conceded by hunters and Game Officers that the pheasant population was not as favorable during the fall shoot of 1947 as it was in 1946.

During the period under review our Provincial Pheasant Farm at Brooks distributed 4,061 pheasants to various parts of the Province, distribution being made by the local Fish and Game Associations. Out of these 4,061 birds released 3,600 birds were banded in order to allow the Province to check the movement of these birds at later dates, and all pheasant hunters were asked to return the leg bands from birds taken.

BIG GAME

As stated earlier in this report, big game is holding its own, in spite of the heavy hunting, with the exception of Rocky Mountain Bighorn Sheep, Caribou and perhaps Moose. The shortage of Moose in areas where this animal was plentiful in previous years may be attributed partly to the migration southward along the eastern slope of the Rocky Mountains and foothills south of Calgary. Today, Moose are occasionally seen in Pincher Creek area where they were not known some years ago.

Bighorn Sheep

The Bighorn Sheep population in the Province has shown a steady decline over the last two years. The reports received from our Game Officers and Forest Rangers indicate that there appear to be considerable numbers of females and young lambs but the full grown Rocky Mountain Bighorn male has become increasingly scarce and although an open season was declared on this animal from September 1st to October 31st during this fiscal year it is apparent from reports that it will be necessary to impose further restrictions on the taking of male Bighorn Sheep. It is regrettable that conditions do not

warrant a continued open season on this big game animal, as it is the outstanding prize of our non-resident non-Canadian big game hunters, and closing the season on Bighorn Sheep will undoubtedly have an adverse affect on our non-resident hunting trade.

Mountain Goat

From all reports received these animals are still plentiful in the Province and it would appear that the Mountain Goat is more than holding its own for reasons not quite known. Undoubtedly the inaccessible places frequented by them has prevented an excessive killing of the species. Only hunters with good equipment and accompanied by first class guides are able to obtain this trophy.

Deer

From reports received not only from Game Officers and Forestry personnel but from the hunters themselves it is established that Deer is definitely on the increase throughout the Province. This increase appears to be general throughout the foothills region. In the more settled districts illegal hunting of this animal for food tends to keep the Deer population down, but in the area north-west and south-west of Calgary and throughout the foothills region south through the Pincher Creek area as far as the United States border, Deer are numerous. Deer are plentiful in the area west of Edmonton, particularly in the Edson-Entrance area along the Canadian National Railway.

A year ago trouble was experienced by the ranchers in the Pincher Creek-Waterton Lakes districts owing to destruction of hay by deer. At that time some of the animals were moved by truck to other parts of the Province and I am pleased to report that no complaints have been lodged with the Game Branch during the season of 1947 of any recurrence of this trouble. It would appear that the movement of the Deer from the area east of the Waterton National Park had the desired effect.

Elk

The Elk situation has remained rather constant during the last four or five years. There is a good supply of Elk in the Province and I believe that it is the outstanding big game animal of today. This situation has definitely changed from a few years ago when the Moose was the most common big game animal in the Province, and only a few Elk remained as the nucleus of the present large herds roaming up and down the foothills area.

The Province was fortunate in having practically no damage caused by Elk during the season of 1947, this undoubtedly being due to the open fall and winter. The very heavy snow with crusted surface adversely affected the feeding conditions during late March and early April, but these conditions set in so late that it had no apparent affect on the Elk herds and the animals were able to weather the late spring storms. As large numbers of Elk were frequenting the farming and ranching areas east and north of the Waterton National Park, the Department again allowed the shooting of female Elk as well as male Elk during the open season.

Moose

I regret to report that there is every indication that the Moose, if not actually declining in numbers, are barely holding their own. I am unable to give any certain reason for this decline or lack of increase. The shooting of these animals by hunters does not, in my opinion, explain the unfavourable situation. Big game outfitters and guides inform me that large numbers of Timber Wolves in the foothills are killing most of the moose calves and preventing an annual increase. Be this as it may, there may be other factors contributing to the decrease in the Moose population. One is the heavy infestation of moose ticks found throughout the foothills area, from the Athabasca forest south, and which, in my opinion, accounts for the animals becoming very run down and unable to survive the severe spring storms.

Caribou

During the spring and summer of 1947 reports were obtained from hunters, guides and outfitters operating in the Athabasca Forest Reserve, north of Jasper Park, regarding the Woodland Caribou, and at that time it was indicated that there was a steady decline of Caribou in this area. After conferring with the various guides and outfitters operating in the district the Department decided to open the season on Woodland Caribou for another season in spite of the fact that the reports indicated a poor supply of Caribou, the opening of the season being more or less for the purpose of obtaining further data on situation. In 1947 the open season on Caribou in the fall only confirmed a previous report that the Caribou had almost entirely disappeared from its usual habitat in the Athabasca Forest Reserve and had either been decimated by hunters, timber wolves or had migrated on to other districts, such as northern British Columbia. There is no doubt that Caribou has become all too scarce in the areas where these animals were formerly quite abundant, and it will become necessary to have a closed season on this big game animal until the cause of this disappearance has been established. It is impossible to believe that the hunters alone are responsible for the disappearance of the Woodland Caribou, as the animal is largely hunted by non-resident hunters. The number of caribou taken in a season is exceedingly small and would not amount to the annual increase. Therefore, if the Caribou has disappeared there must be some other reason.

Antelope

During 1947 the Department was compelled to keep a closed season on Antelope, as a survey showed that the numbers had suffered a severe set-back during the spring of 1947. In those areas where the snow became crusted and thus prevented them from obtaining sufficient feed quite a number of the animals died from starvation. Another large number of Antelope migrated south from this Province into the State of Montana. It is estimated that the Antelope herd, which in 1946 was estimated to consist of approximately 30,000 animals, was reduced to the neighborhood of some 7,000 animals, by the early summer of 1947. It is expected and hoped that the Antelope which migrated to Montana during the winter of 1946-1947 will return to Alberta during the year 1947 and re-establish the herd in this Province.

Bear

Grizzly Bear is still considered to be a predatory animal in some parts of the Province. In the area lying to the south of the Crowsnest-Medicine Hat branch of the Canadian Pacific Railway Grizzly Bear may be shot at any time and without a license, the reason being that this area is mainly a farming and livestock area and the year-around open season is necessary for the protection of livestock. In addition to this regulation the Department employs special hunters to kill any Grizzly Bear in the Forest Reserves and the Waterton-Carbondale Game Preserves. Black and Brown Bear are still unprotected throughout the Province outside of the Forest Reserves.

ALBERTA FUR PRODUCTION

During the fiscal year now under review Alberta trappers produced 1,968,497 pelts of various kinds, an increase over last year of 272,561 pelts. An increase in the fur production is always gratifying but this particular increase means considerably more to the trappers than is at first apparent to the casual observer. The revenue to the trapper from the fur catch of 1947 was almost double that of the 1946 fiscal year. The value to the trapper of the fur taken during the season now under review amounts to the sum of \$2,781,991.07, compared with \$1,566,308.35 during the previous year. As will be noted from these figures, in spite of the fact that the increase in the number of pelts taken is only 272,000 pelts the value of the fur is practically double. This very substantial increase in the return to the trapper without a corresponding increase in the number of pelts taken can be explained by the fact that there was a large increase in the fine fur group consisting of Muskrat, Beaver and Ermine. These pelts were in great demand in the fur market and it was the fur in which there was the greatest increase in number of pelts taken. The long-haired coarse furs, including the fur of Foxes, Skunk, Lynx and rabbits, show a very substantial decrease in the number of pelts taken. For example during the 1947 fiscal year only 1,914 foxes were trapped in Alberta compared with 2,530 foxes taken in the year previous. It will be seen therefore that the trapper derived almost twice a much benefit from his season's work in 1947. Particularly gratifying is the substantial increase in the number of muskrat pelts. This increase indicates that the registered trappers are gradually building up the muskrat population on their lines. There were 474 more beaver pelts taken this year than in the corresponding season last year. Both Muskrat and Beaver are having a stabilizing effect on the registered trap-lines. A few years ago, prior to the institution of registered trap-lines, beaver were almost extinct in districts which now show a good return.

Registered Trap-lines

During the fiscal year the Department issued 2,839 Certificates of Registration of trap-lines, a slight decrease from the number registered in the 1946 fiscal year when the Department issued 3,023 registered trap-lines. We therefore have a decline of 184 in the registered trap-lines from the previous fiscal year. Most of this decline can be accounted for by the Department being stricter in enforcing the regulations dealing with the applications for trap-line renewals. The Department insists in the trap-lines being renewed not later than the 15th day of

July prior to the current trapping season, and some of the trappers neglected to ask for renewal of their trap-lines until quite late in the fall and winter and therefore were unable to have them renewed.

Beaver and Muskrat Causing Damage to Property or Public Works

From time to time it becomes necessary to trap and remove muskrats or beaver from areas where they are not wanted and where they cause considerable damage. This is the case particularly in the Irrigation districts, the Lethbridge Northern Irrigation District and the Western Irrigation District. Muskrats or Beaver getting into the canals of these projects can cause a tremendous amount of damage by burrowing through the canal banks and causing the ditches and dams to wash out. In cases of this nature the complaint is investigated and the damage is surveyed by one of our Game Officers. If it is found that the complaint is justified a special permit is issued for the trapping, killing or otherwise removing beaver or muskrats causing the damage.

In some cases we find that beaver are flooding crop lands or cutting down trees on farm properties. In such cases the procedure is similar and the complaint is first investigated before a permit is granted to the owner of the land to remove the beaver. During the 1947 fiscal year 364 Muskrat Permits were issued on which 29,225 muskrats were reported to have been taken. During the same period 292 Special Beaver Permits were issued and 1,806 beaver have been reported taken under these Permits.

Fur Farming of Muskrats and Beaver

There is a certain amount of fur farming of beaver and muskrats being carried on in this Province, but this type of fur farming is still in its infancy and experimental stage and there is still considerable to learn about the habits of muskrats and beaver kept in captivity. During the season under review the Province issued 14 licenses for the fur farming of beaver and 9 licenses for the fur farming of muskrats, a total of 23 fur farms for muskrats and beaver.

Predatory Control

Earlier in this report I mentioned in connection with the decline of the Moose and Caribou population, that most of the outfitters and guides are unanimous in their opinion that the decline in the Moose and Caribou population is largely due to the depredations of Timber Wolves and Cougars. There is no doubt but that these predators account for a large number of the calves of these two big game animals, and the Department, in its attempt to combat this predation, has been paying a bounty on Timber Wolves and Cougars killed from April 1st to March 31st, and on Coyotes killed from May 1st to March 31st of this fiscal year. In all, the Province has paid during the period under review bounty on 1,143 Timber Wolves, 59 Cougars and 29,237 Coyotes, the total bounty amounting to \$163,045.00.

Black and Brown Bear, although classed as predators, are not taken very seriously as predatory animals. They undoubtedly take a certain amount of the smaller livestock, such as sheep, pigs, calves, etc., but compared with the Timber Wolf the damage done by the Black and Brown Bear is negligible.

Game Preserves and Bird Sanctuaries

During the 1947 fiscal year the area known as Kirkpatrick Lake, in townships 33 and 34, ranges 9 and 10, west of the 4th meridian, was established and set aside as a Game Preserve, the reason being that numerous migratory birds use this lake as a temporary resting place and stop over in their migration from the north.

Enforcement

During the fiscal year under review the Game Branch obtained 242 convictions for various infractions of the Game Act and the Game Regulations. This is a slight increase in the number of convictions from the previous fiscal year, when 196 convictions were registered for infractions of the Game Act. In connection with these convictions various articles of hunting equipment were confiscated to the Crown in the right of the Province, such as firearms, ammunition, canoes, boats and outboard motors, as well as many other small articles, such as axes, hunting knives, etc. There was also confiscated to the Crown in the right of the Province illegally trapped furs to the value of \$2,144.43. All firearms and ammunition confiscated are turned over to the Department of the Attorney General to be disposed of by that Department, and all confiscated furs are disposed of by being offered for sale at public auction and the proceeds from such sale forming part of the general revenue of the Province. It is notable that over a number of years the number of convictions obtained under the Game Act and the Game Regulations remains to a great extent constant, there is not very much of a fluctuation in the number of convictions obtained. There is always a certain number of individuals who are willing to take a chance and who will invariably break the Game Regulations from time to time, but it is gratifying to note that the public is assisting the Game Branch more than was usual in the past. Hunters, trappers and members of the Fish and Game Association are more inclined to give the Department information which will lead to the prosecutions of offenders. It is obvious that without efficient enforcement any type of conservation program instituted is bound to fail. Any conservation program is dependent on the efficient enforcement of the Game Act and the Regulations for its success.

SUMMARY

In concluding my report on the operations of the Game Branch for the fiscal year of 1947, I may say that I consider the fiscal year a very successful one from the point of conservation and also because of the revenue derived from our wild life by the residents of this Province. There has been a steady increase in the number of pelts of fur-bearing animals taken by the trappers, the registered trap-lines becoming well established and are showing gratifying results, both from the point as a help to conservation as well as to the revenue derived by the trapper. The sale of Big Game and Game Bird Licenses has shown a steady increase and the game and fur of this Province has become a very valuable natural resource, supplying a livelihood to many thousands of people throughout the northern part of the Province, as well as being an important source of revenue to the government, the total revenue derived from all operations of the Game Branch during the fiscal year under review amounting to \$287,919.58, being only slightly below last year's revenue.

ALBERTA FUR PRODUCTION—SEASON 1947-48
(WILD FUR)

	Total No. of Pelts	Average Value of Pelts	Total Value of Pelts
Badger.....	376	\$ 1.78	\$ 669.28
Bear.....	13	3.50	45.50
Beaver.....	7,914	31.80	251,665.20
Ermine.....	169,273	2.37	401,177.01
Silver Fox.....	76	9.47	719.72
Cross Fox.....	238	7.49	1,782.62
Blue Fox.....	7	18.00	126.00
Red Fox.....	556	2.76	1,534.56
White Fox.....	37	14.88	550.56
Lynx.....	110	23.86	2,624.60
Marten.....	565	32.00	18,080.00
Mink.....	2,303	28.62	65,911.86
Muskrat.....	463,193	2.37	1,097,767.41
Otter.....	71	23.98	1,702.58
Rabbit (Jack).....	12,261	.55	6,743.55
Skunk.....	816	.80	652.80
Squirrel.....	1,300,129	.69	819,089.01
Coyote.....	10,512	3.13	32,902.56
Timber Wolf.....	38	4.10	155.80
Wolverine.....	9	10.05	90.45
			<hr/> \$2,781,991.07 <hr/>

GAME LICENSES—PERIOD APRIL 1st, 1947 to MARCH 31st, 1948

	No. of Licenses	Fee	Total Amount
Resident's Bird Game Licenses.....	20,816	\$ 2.50	\$52,040.00
Non-Resident's Bird (Canadian).....	166	5.00	830.00
Non-Resident's Bird (Non-Canadian).....	276	25.00	6,900.00
Resident's Big Game.....	10,603	5.00	53,015.00
Resident Trappers.....	1,680	2.00	3,360.00
Guest Game Bird (Canadian).....	5	2.50	12.50
Guest Game Bird (Non-Canadian).....	58	5.00	290.00
Non-Resident's Big Game.....	344	50.00	17,200.00
Permit to Collect.....	1	1.00	1.00
Taxidermist's.....	3	5.00	15.00
Resident's Special.....	92	5.00	460.00
Non-Resident's Special.....	211	25.00	5,275.00
Guide's.....	214	2.50	535.00
Game Farms.....	1	5.00	5.00
Outfitter's.....	75	Various	2,235.00
Non-Resident's Permit to Export.....	239	Various	13,106.00
Fur Farmer's.....	23	Various	206.00
Permit to Trap Muskrats.....	1,611	3.00	4,833.00

BOUNTY ON TIMBER WOLVES, COYOTES AND COUGARS,
SEASON 1947-48.

Timber Wolves and Cougars—Killed from April 1st, 1947 to March 31st, 1948:		
753 Timber Wolves at \$15.00 each.....	\$	11,295.00
390 Timber Wolves at \$12.00 each.....		4,680.00
59 Cougars at \$15.00 each.....		885.00
Coyotes—Killed from May 1st, 1947 to March 31st, 1948:		
29,237 Coyotes at \$5.00 each.....	\$146,185.00	
	<hr/>	<hr/>
	\$163,045.00	

LICENSED ALBERTA FUR FARMS, 1947-48

Beaver.....	14
Muskrat.....	9

DEPARTMENT OF LANDS AND MINES

CONVICTIONS UNDER THE GAME ACT, 1947-48

Number of Convictions 242

CONFISCATED FURS

Amount realized from the sale of confiscated fur during the period April 1st, 1947 to
March 31st, 1948..... \$ 2,144.43

TRAP-LINE REGISTRATIONS

Number of Registered Trap-Lines and Revenue, April 1st, 1947 to
March 31st, 1948..... 2,839 \$28,390.00

FUR DEALER'S LICENSES, ETC.

Resident Fur Dealer's Licenses to Carry on Business in a city, and elsewhere than a city	384	\$3,840.00
Non-Resident Fur Dealer's Licenses to carry on business in the Province.....	7	600.00
Resident Travelling Fur Purchasing Agents' Licenses.....	28	700.00
Tanners' Licenses	2	20.00
Furriers' Licenses	16	160.00

FUR TAX REVENUE

Amount collected..... \$91,746.65

MUSKRATS AND BEAVER PERMITS ISSUED

Muskrat Permits issued.....	364
Musk rats reported taken.....	29,225
Beaver Permits issued	202
Beaver reported taken.....	1,806

Mining Lands Administration

REPORT OF THE SUPERINTENDENT OF MINING LANDS,

H. H. SOMERVILLE

The Province experienced a record year in 1947 in both footage drilled and revenue to the initial producers of oil. The total footage drilled during the year was 882,358 feet, amounting to a little more than 167 miles and exceeding the previous record year of 1944 by 284,530 feet, and because of increases in the price of oil the value of the oil produced in 1947 was \$18,078,907 in comparison with a value of \$14,348,069 for the previous year.

The production and value of Alberta's chief minerals for 1947 were as follows: coal, 8,074,596 tons, valued at \$36,317,343; petroleum, 6,809,284 barrels, valued at \$18,078,907; natural gas, 53,092,289 Mcf., valued at *\$2,654,614; and salt, 29,552 tons, valued at \$295,520.

Mineral rights, solid, liquid and gaseous, the property of the Crown in the right of the Province, are not sold, but are disposed of by lease, reservation, permit or grant for limited periods of time. Revenue is obtained from fees, rentals, bonuses and royalties, and during the fiscal year a total of \$2,078,872.62 was received, exceeding the record fiscal year of 1944-45 by more than two hundred thousand dollars.

The discovery of oil on February 13th, 1947, by Imperial Leduc No. 1 Well, located about 15 miles south-west of the City of Edmonton, added to the impetus of exploration and development for oil in the Province. The discovery was made at a depth slightly in excess of 5,000 feet in the Devonian limestone and the well is producing from what is now commonly known as the D2 zone. The next well, Imperial Leduc No. 2, was completed three months later about a mile and a quarter southwest of the discovery and proved productive in a formation some 300 feet lower, called the D3 zone.

By the close of 1947, twenty-eight wells had been completed as oil producers, extending the Leduc field to the west of the discovery three miles, to the north two and one-half miles, to the east one mile and to the south one and one-quarter miles. One well was completed as a gas producer from the Viking sand to supply natural gas for fuel requirements of some of the rigs drilling in the area and 17 wells were in the process of drilling. The field yields high gravity oil of 39 to 40 degrees A.P.I. and by the end of 1947 had produced 372,427 barrels.

The drilling of a well in the Pincher Creek area has created considerable interest and late in December the well after being drilled to a depth of 11,800 feet was tested, giving a strong flow of wet gas containing recoverable high gravity oil of 54 degrees A.P.I. and further drilling is continuing.

The Lloydminster Field, straddling the Alberta-Saskatchewan border, enjoyed an active drilling program during the year and the

* Based on well-head valuation of 5c per Mcf.

Alberta portion of the field produced 304,236 barrels in 1947 in comparison with a production of only 76,187 barrels in 1946.

Early in January of 1948 Imperial Woodbend No. 1 well, drilled in the township to the north of the Leduc field, made a discovery similar to Leduc's D3 production, but it is too early to forecast whether Woodbend is a new field or an extension of Leduc.

The Leduc discovery stimulated a wide search for similar fields and in this fiscal year under review we have to report the granting of ninety reservations covering more than seven and one-half million acres. The holders of these reservations are required to conduct some type of geophysical examination or drill one or more wells, so by the time the reservations terminate, expenditures on a large scale will have been made. The number of geophysical parties consequently increased and 42 licenses were issued in the fiscal year.

New regulations for the granting of reservations of petroleum and natural gas rights were established on July 11th, 1947, and they were amended and consolidated on March 29th, 1948. No person or company may now hold more than two reservations, each to comprise not more than one hundred thousand acres. The regulations will not permit assignment of reservations and anyone making a discovery of oil is only allowed three months to make his selection of leases around the discovery well.

The regulations dealing with leasing of petroleum and natural gas rights were rescinded on August 19th, 1947. New regulations were established and then on March 29th, 1948, they were amended and consolidated. The new regulations discontinued the granting of royalty rebates to discovery wells and provided for the creation of reserves for the Crown adjacent to areas acquired under lease to insure against any operator acquiring leases on all the Crown lands in any large oil field that may be discovered. The practice of granting credit for expenditures incurred in drilling on leases for application to rentals was discontinued and now the only credits allowed are for work performed on reservations which may apply to one year's rental on any leases applied for out of the reservation.

The royalty on natural gas was amended and commencing on April 1st, 1948, the minimum to be collected is three-quarters of one cent per thousand cubic feet of gas sold or consumed for some useful purpose off the leasehold.

A sale by sealed tender of a petroleum and natural gas lease of Parcel No. 1, comprising Legal Subdivision 6, Section 35, Township 50, Range 26, west of the 4th Meridian, and of Parcel No. 2, comprising Legal Subdivision 13 of the same Section was held on January 20th, 1948. Competition was on the basis of a percentage of the products, other than natural gas, obtained from the location, such percentage being in addition to the royalty payable on ordinary Crown leases. Each tender had to contain a cash purchase price in the sum of \$10,000 and the notice of sale required the commencement of drilling of a well on the lease by May 1st, 1948. The successful tenderer for Parcel No. 1 was Mr. Renzo Falco, of New York, with an offer of 58½ per cent. and Saskatchewan Federated Co-operatives Limited of Saskatoon was the successful tenderer for Parcel No. 2 with a bid of 50 per cent.

During the year 1,947 applications for mineral rights were made at the offices of the Mining Recorders at Edmonton, Calgary and Peace River, which required the preparation of a similar number of files for the Division. Several inquiries were made as to the availability of mineral rights mostly for petroleum and natural gas leases or reservations, by personal application and by correspondence. The Division dispatched a total of 20,167 letters during the fiscal year under review.

The natural resources of Alberta were transferred from the Dominion Government to the control of the Government of Alberta on October 1st, 1930, and the following tabulation shows the numbers and acreages of the various leases issued from that date to March 31st, 1948:

MINING LANDS LEASES

Type of Lease	Active at date of transfer	Issued	Reinstated	Divided	Cancelled	Renewed	Active at Mar 31, 1948
Petroleum and natural gas.....	18,863	12,719	161	713	29,940	201	2,315
Petroleum and natural gas crown reserve.....	5	20	....	....	25	....	....
Coal, provincial lands.....	620	668	4	7	698	200	401
Coal, school lands.....	60	51	1	....	69	10	33
Quarrying.....	45	105	....	....	66	13	71
Quartz mining.....	4	....	....	....	....	....	4
Salt.....	1	1	....	....	1	....	1
Bituminous sands.....	4	3	....	....	7	....	....
Miscellaneous.....	1	4	....	....	3	1	1
Dredging.....	32	20	....	....	50	....	2
Total.....	19,635	13,591	166	720	30,859	425	2,828

ACREAGE CONTAINED IN ABOVE LEASES

Type of Lease	Active at date of transfer	Issued	Reinstated	Cancelled	Renewed	Active at Mar. 31, 1948
Petroleum and natural gas.....	2,454,802	3,920,500	31,179	5,539,413	24,066	843,002
Petroleum and natural gas Crown reserve.....	6,160	22,561	....	28,721	....	....
Coal, provincial lands.....	236,984	134,703	335	192,310	101,112	128,600
Coal, school lands.....	9,570	4,027	53	7,846	1,604	4,200
Quarrying.....	1,675	1,719	....	1,134	152	2,108
Quartz mining.....	182	....	....	....	....	182
Salt.....	200	6,721	....	200	....	6,721
Bituminous sands.....	3,952	5,897	....	9,849	....	....
Miscellaneous.....	3,560	345	....	43	22	3,840
Total.....	2,717,085	4,146,473	31,567	5,779,516	126,956	988,653
Dredging (in miles).....	145	84	....	219	....	10

STATEMENT OF BUSINESS TRANSACTED, 1947-48

PETROLEUM AND NATURAL GAS

	Number	Acres
Leases issued.....	370	153,444
Leases cancelled and relinquished.....	617	378,585
Leases reinstated.....	2	391
Drilling reservations granted.....	1	9,719
Drilling reservations terminated.....	4	39,433
Prospecting reservations granted.....	90	7,501,418
Prospecting reservations terminated.....	39	3,048,100

DEPARTMENT OF LANDS AND MINES

Fees, rentals and bonuses collected	\$ 759,701.95
Royalties collected	875,238.87
Total	<u>\$ 1,634,940.82</u>

COAL

	Number	Acres
Leases issued on provincial lands	49	14,108
Leases cancelled and relinquished on provincial lands	12	980
Leases issued on school lands	4	440
Leases cancelled and relinquished on school lands	2	160
Domestic permits issued	4	.....
Fees and rentals collected		\$121,936.17
Royalties collected		<u>288,215.46</u>
Total		<u>\$410,151.63</u>

QUARRYING

	Number	Acres
Leases issued	6	715
Leases cancelled and relinquished .....	.....	.....
Sand, stone and gravel permits issued	30	.....
Fees and rentals collected		\$ 1,010.27
Royalties collected		<u>9,766.38</u>
Total		<u>\$ 10,776.65</u>

MISCELLANEOUS

	Number
Bituminous sands leases issued .....	.....
Bituminous sands leases cancelled	1
Permits to collect bitumen issued	1
Alkali permits cancelled	1
Quartz mining claims granted .....	.....
Quartz mining certificates of work issued	1
Powers of Attorney (quartz) filed	4
Placer claims granted	15
Powers of Attorney (placer) filed	6
Bar-digging permits issued .....	.....
Salt leases issued .....	.....
Geophysical licenses issued	42
Fees, rentals and royalties collected	<u>\$23,003.52</u>

ASSIGNMENTS REGISTERED

Nature	Number
Petroleum and natural gas	263
Coal	16
Miscellaneous	<u>12</u>
Total	<u>291</u>

PETROLEUM AND NATURAL GAS

Development of Leases.—Approved expenditures incurred in exploration work and drilling on petroleum and natural gas rights, acquired under reservation or held under lease to March 28th, 1948, could be applied in satisfaction of rentals which otherwise would be payable in cash. During the fiscal year under review, rentals due the Province amounting to \$1,032,925.99 were satisfied from such ex-

penditures. The total revenue received in cash for fees, rentals and bonuses was \$759,701.95, which, added to the expenditures accepted in lieu of rentals, makes a total of \$1,792,627.94.

Disposal by Public Tender.—Bonuses amounting to \$26,410.55 were accepted during the fiscal year at sales by public tender of petroleum and natural gas rights.

Number and Area of Leases.—During the year, 370 petroleum and natural gas leases were granted, covering 153,444 acres and at the close of the fiscal year a total of 2,315 leases were active, containing an area of 843,002 acres.

Reservations.—One reservation comprising 9,719 acres of petroleum and natural gas rights was granted during the year requiring the drilling of a well. These regulations were rescinded on August 19th, 1947, and the last drilling reservation terminated on December 23rd, 1947. Ninety prospecting reservations were issued under the regulations governing the reservation of petroleum and natural gas rights for geological and/or geophysical examination during the year, covering an area of 7,501,418 acres. At the close of the year 120 prospecting reservations were active containing an area of 11,861,709 acres.

COAL

New coal leases had mainly been granted for the continuation of existing operations, and for new mines where the local market could not be economically supplied from operating mines in the vicinity, but in September of 1947 the policy was altered to permit the issue of leases to applicants satisfying the Department that they had the necessary finances to open and operate a mine. In the fiscal year, 53 leases were issued containing 14,548 acres, being made up of new and renewal leases. There are now 434 active leases comprising 132,800 acres.

During the current fiscal year the following quantity of coal, subject to Crown royalty, was mined:

	Tons
Provincial lands' leases.....	3,649,543
School lands' leases.....	530,426
Coal lands' and mineral sales	1,017,127
Total.....	5,197,096

Crown royalties collected on coal mined in Alberta since April 1st, 1907, are as follows:

CROWN ROYALTIES COLLECTED ON COAL

Fiscal Year	Royalty Paid	Fiscal Year	Royalty Paid
1907-08.....	\$ 7,621.67	1920-21.....	\$ 190,545.80
1908-09.....	5,322.39	1921-22.....	185,436.88
1909-10.....	153,559.98	1922-23.....	171,723.83
1910-11.....	218,932.88	1923-24.....	210,389.53
1911-12.....	104,894.55	1924-25.....	148,979.10
1912-13.....	142,997.79	1925-26.....	188,277.94
1913-14.....	147,198.75	1926-27.....	218,150.10
1914-15.....	104,489.77	1927-28.....	231,757.96
1915-16.....	67,190.17	1928-29.....	254,616.27
1916-17.....	149,447.82	1929-30.....	248,083.71
1917-18.....	144,634.75	1930-31 (First half)*.....	90,052.07
1918-19.....	175,687.66		
1919-20.....	181,641.80		
			<hr/>
			\$3,741,633.17

	Provincial Lands	School Lands	
1930-31 (Last half)*	\$ 105,126.51	\$ 5,014.29	\$ 110,140.80
1931-32	145,170.33	6,354.09	151,524.42
1932-33	143,800.01	4,971.78	148,771.79
1933-44	193,527.82	9,520.13	203,047.95
1934-35	176,122.43	12,365.39	188,487.82
1935-36	186,691.23	19,779.76	206,470.99
1936-37	175,214.33	18,596.00	193,810.33
1937-38	158,227.11	15,159.15	173,386.26
1938-39	143,070.78	9,270.23	152,341.01
1939-40	168,802.75	7,812.78	176,615.53
1940-41	200,045.68	15,841.24	215,886.92
1941-42	216,777.95	22,849.83	239,627.78
1942-43	235,613.19	24,700.43	260,313.62
1943-44	239,590.96	19,732.99	259,323.95
1944-45	251,136.50	22,094.01	273,230.51
1945-46	260,144.66	27,514.41	287,659.07
1946-47	286,486.89	30,611.98	317,098.87
1947-48	261,554.86	26,660.60	288,215.46
Total			\$7,587,586.25

* Date of transfer of Alberta's natural resources from federal to provincial control, and date also of the creation of the Department of Lands and Mines, Alberta, October 1st, 1930.

Permits for Domestic Use.—Permits to mine coal on Provincial lands by strip-mining methods for domestic use may be issued to actual settlers on payment of a fee of one dollar and royalty at the rate of ten cents a ton. Each permit expires on March 31st following its date of issue. During the year, four permits were issued, authorizing an extraction of 71 tons, none of which could be bartered or sold.

QUARRYING

Three quarrying leases were issued and one renewed during the fiscal year for removing gravel from the bed of the North Saskatchewan River in the vicinity of Edmonton, one was issued on the bed of the Old Man River near Taber, and a lease of 715.25 acres was issued for the extraction of rock and shale at Exshaw. Extraction of 378,197 cubic yards of sand and gravel and 68,545 cubic yards of limestone and shale from Provincial lands was reported for the calendar year of 1947.

At the close of the fiscal year, 71 leases were active containing an area of 2,108 acres.

Permits.—Sand, stone and gravel permits are issued on the beds of rivers and lakes at a fee of \$2.50 and a royalty of five cents a cubic yard, and expire on the 30th day of November following the date of issue. In this fiscal year, 30 permits were issued for the extraction of 74,071 cubic yards.

DREDGING

Two dredging leases were issued covering 10 miles of the bed of the McLeod River in the vicinity of Peers and the ten leases granted during the previous year were cancelled.

QUARTZ

No new claims were recorded during the fiscal year. The claim in the Drumheller district for the recovery of bentonite was continued,

and royalty of \$78.00 was paid, representing $2\frac{1}{2}\%$ of the value of the bentonite recovered.

The four quartz leases covering 181.8 acres issued by the Department of the Interior are still active.

PLACER

Seven placer grants were issued during the year on the Athabaska River, one on the North Saskatchewan River, one on the Sand River and six grants for inland claims were issued near the town of Barons.

SODIUM CHLORIDE (Common Salt)

This fiscal year the salt plant operated by Industrial Minerals Limited, at Waterways, reported extraction of 29,166 tons of salt on which royalty at the rate of twenty cents a ton was collected. This plant is located on the lease issued in 1937, covering 6,720.82 acres.

A summary appears showing the salt production by fiscal years:

SALT PRODUCTION	
Fiscal Years	Tons Produced
1938-39.....	5,420
1939-40.....	2,508
1940-41.....	11,720
1941-42.....	19,016
1942-43.....	20,672
1943-44.....	17,425
1944-45.....	28,315
1945-46.....	29,206
1946-47.....	31,365
1947-48.....	29,166

SPECIAL PERMITS

One annual permit for the collection of bitumen issuing from an old well in the Peace River district was again renewed. Collection of 567 gallons was reported during the year under review. The permit for the recovery of alkali accumulations issued the previous year was cancelled, no production being reported.

DRILLING STATISTICS

The drilling and production of petroleum and natural gas wells in the Province are administered by The Petroleum and Natural Gas Conservation Board, 514 Eleventh Avenue West, Calgary, Alberta, and particulars as to drilling activity, production and statistical data are included in weekly, monthly and annual reports issued by the Board.

Technical Division

REPORT OF THE SUPERINTENDENT OF THE TECHNICAL DIVISION, T. W. DALKIN

In reviewing the work of the Technical Division during the last fiscal year ending March 31st, 1948, the unusual post-war activity and general prosperous conditions throughout the Province were reflected to a large extent in the great demand for the natural resources under the administration of this Department.

In dealing with the lands to which titles were granted a total number of 878 Notifications were issued covering surface rights to the extent of 129,374,829 acres, more or less, details of which appear hereunder:

NOTIFICATIONS ISSUED DURING FISCAL YEAR, APRIL 1st, 1947 TO MARCH 31st, 1948

Classifications	Notifications	Area
Homesteads	445	69,001.870
Sales (including lots in subdivisions)	180	7,935.755
Second Homesteads	40	5,917.850
Soldier Entries	2	301.000
Special Grants (including lots in subdivisions)	19	209.770
*Quit Claim Special Grants	1	14,093.200
Exchange of Lands	29	7,015.510
Certificates of Tax Sale Redemption (including lots in subdivisions)	3	321.000
School Lands Sales (including lots in subdivisions)	150	24,563.890
Release of Habendums	4	14.984
	873	129,374.829

NOTIFICATIONS ISSUED DURING FISCAL YEAR, APRIL 1st, 1947 TO MARCH 31st, 1948— FOR MINERAL RIGHTS

Classifications	Notifications	Area
Brought Forward	873	
Mineral Rights:		
Addition to Janvier	1	514.00
Chipewyan Indian Reserve	1	52,398.20
Parks (Elk Island National Park, Jasper National Park, Waterton National Park)	1	2,866,688.00
Banff National Park	1	1,664,400.00
	4	4,584,000.20
Exchange of Minerals Canadian Pacific Railway	1	50.00
Total Number of Notifications issued	878	

*The area of 14,093.20 acres, for this Quit Claim, is for that portion of Elk Island Park lying south of the highway.

DETAILS OF SALES IN SUBDIVISIONS WHICH ARE INCLUDED IN THE
180 NOTIFICATIONS REFERRED TO ABOVE

	Notifications	No. of Lots	No. of Block
Bideford—1509 B.A.....	1	1	1
Bodo—5201 E.O.....	1	1	1
Burnis—3688 A.E.....	1	2	1
Canmore—39 Gen.....	11	33	11
Chinook—2231 B.A.....	1	1	1
Coleman—6808 C.U.....	2	4	2
Compeer—1335 B.A.....	1	1	1
Donnelly—204 C.L.....	4	10	4
Enchant—438 B.D.....	3	5	3
Exeel—2693 B.C.....	1	2	1
Grandview—1109 B.F.....	1	2	1
Hemaruka—4934 D.O.....	2	2	2
Jarvie—37 Gen.....	8	13	8
Kirriemuir—2689 B.C.....	1	1	1
Loyalist—473 A.J.....	1	22	1
Maple Leaf—6224 Y.....	1	1	1
Monitor—3708 A.P.....	2	3	2
McLennan Townsite—1394 E.U.....	1	1	1
McMurray Settlement—7518 A.K.....	3	6	3
Mission—3920 E.X.....	1	1	1
Orion—7415 B.O.....	1	1	1
Pancras—827 B.A.....	1	3	1
Patricia Townsite—1217 B.A.....	1	2	1
Peace River Landing Settlement—5617 B.K.....	1	2	1
Richdale—6978 A.W.....	2	3	2
Scotfield—7416 C.H.....	2	5	2
Sedalia—2887 D.N.....	2	2	2
Sedalia—6280 E.G.....	3	6	3
Sibbald—3569 B.N.....	4	4	4
Sibbald—5039 A.V.....	1	1	1
Stannmore—7041 A.V.....	2	5	2
Sunnynook—4045 C.O.....	5	7	5
Travers—927 A.Y.....	4	7	4
Waiparous—3046 E.X.....	1	1	1
Wardlow—1703 C.P.....	2	2	2
Total.....	79	163	79

SUBDIVISIONS INCLUDED IN THE 150 NOTIFICATIONS ISSUED
UNDER SCHOOL LANDS SALES

	Notifications	No. of Lots	No. of Blocks
McLennan Townsite—1394 E.U.....	2	2	2
Red Deer Addition to Drumheller—2193 C.C.....	1	1	1
Total.....	3	3	3

SUBDIVISIONS INCLUDED IN THE 19 NOTIFICATIONS ISSUED
UNDER SPECIAL GRANTS

	Notifications	No. of Lots	No. of Blocks
Sunnynook—4045 C.O.....	1	1	1
Total.....	1	1	1

SUBDIVISIONS INCLUDED IN THE 3 NOTIFICATIONS ISSUED UNDER
CERTIFICATE OF TAX SALE REDEMPTION

	Notifications	No. of Lots	No. of Blocks
Retlaw.....	1	2	1
Total.....	1	2	1

TOTAL NUMBER OF NOTIFICATIONS ISSUED COVERING LOTS AND
BLOCKS IN SUBDIVISIONS

79 Sales, 3 School Lands Sales, 1 Special Grant and 1 Certificate of Tax Sale Redemption—Total	84
Total number of Notifications issued giving area	792
National Parks Notifications	2
Total.....	878

From the foregoing information, of special interest is a quit claim covering an area of 14,093.20 acres, more or less. This was provided for under an Order in Council No. 1226/47, wherein this area, together with all mines and minerals, both precious and base, adjoining the south boundary of Elk Island National Park and formerly within the Cooking Lake Reserve, was transferred to the Dominion Government.

Generally speaking, Highway No. 16 adjoins the north boundary of this area and an old surveyed trail now establishes the new boundary of the enlarged Elk Island National Park on the south.

In making this transfer to the Dominion Government a strip of land was reserved along the south boundary of Highway No. 16 to permit of the widening of same. This Highway was affected by certain lands already held by title in the name of the Dominion Government and arrangements were made with the Dominion Government to donate the extra width required to widen it.

In return for this land quit claimed to the Dominion, under an agreement entered into between the Dominion and the Province, dated the 8th day of November, 1947, the Province acquired from the Dominion the Wainwright Buffalo National Park, to which reference will be made later in this report.

By Order in Council 1339/37, dated the 22nd day of November, 1937, Indian Reserves Nos. 201, 201A, 201B, 201C, 201D, 201E, 201F, and 201G, which reservations are strung along the lower Athabasca River and extend as far north as the Athabasca Delta, were granted to the Dominion Government and Notification issued for the 52,398.20 acres, more or less. From these reservations all mines and minerals were specifically made. Similarly, by Order in Council No. 7/39, dated the 5th January, 1939, additional lands were set apart as an addition to the Janvier Indian Reserve No. 194, containing 514 acres, more or less, in Township 80, Range 5, west of the 4th Meridian. When the Notification granting these additional lands was registered in the Land Titles Office the mines and minerals were also reserved. Ottawa has always protested the reservation of these minerals from the newly created Indian Reserves and repeated representations have been made for them.

The Dominion contends that the Province did not act properly in reserving to itself these mines and minerals underlying lands set aside for the purpose of Indian Reservations and that the Natural Resources Agreement stipulates that the land necessary to enable Canada to fulfil its obligation under Treaty with the Indians will, after certain formalities have been complied with, be transferred to the Federal administration, including the minerals, on the claim that the Indians under Treaty are entitled to full ownership of the land and the minerals. Satisfactory arrangements were ultimately concluded

whereby all mines and minerals, other than gold and silver, were granted to Canada on the 1st day of October, 1947, underlying the Chipewyan Indian Reservations and all mines and minerals, other than gold and silver, were granted to the Dominion on the 2nd day of October, 1947, underlying the addition to the Janvier Indian Reserve.

NATIONAL PARKS

As it will be seen from the details of the Notifications appearing earlier in this report, that 2,866,688.00 acres of surface rights and 1,664,400.00 acres of mineral rights underlying Elk Island, Jasper, Waterton Lakes and Banff National Parks have been disposed of, it would seem desirable that reference should here be made to these Parks. Since the transfer of the natural resources certain boundaries of these National Parks have been changed, causing additions to or deletions from the Parks and in two cases the Parks have been totally abolished.

In order to legalize the new boundaries there was enacted Bill M-9 and passed by the Senate on the 24th June, 1947, respecting certain National Parks and to amend the National Parks Act. This Bill provided for the abolition of Nemiskam and Buffalo National Parks and the same declared to be no longer required for park purposes.

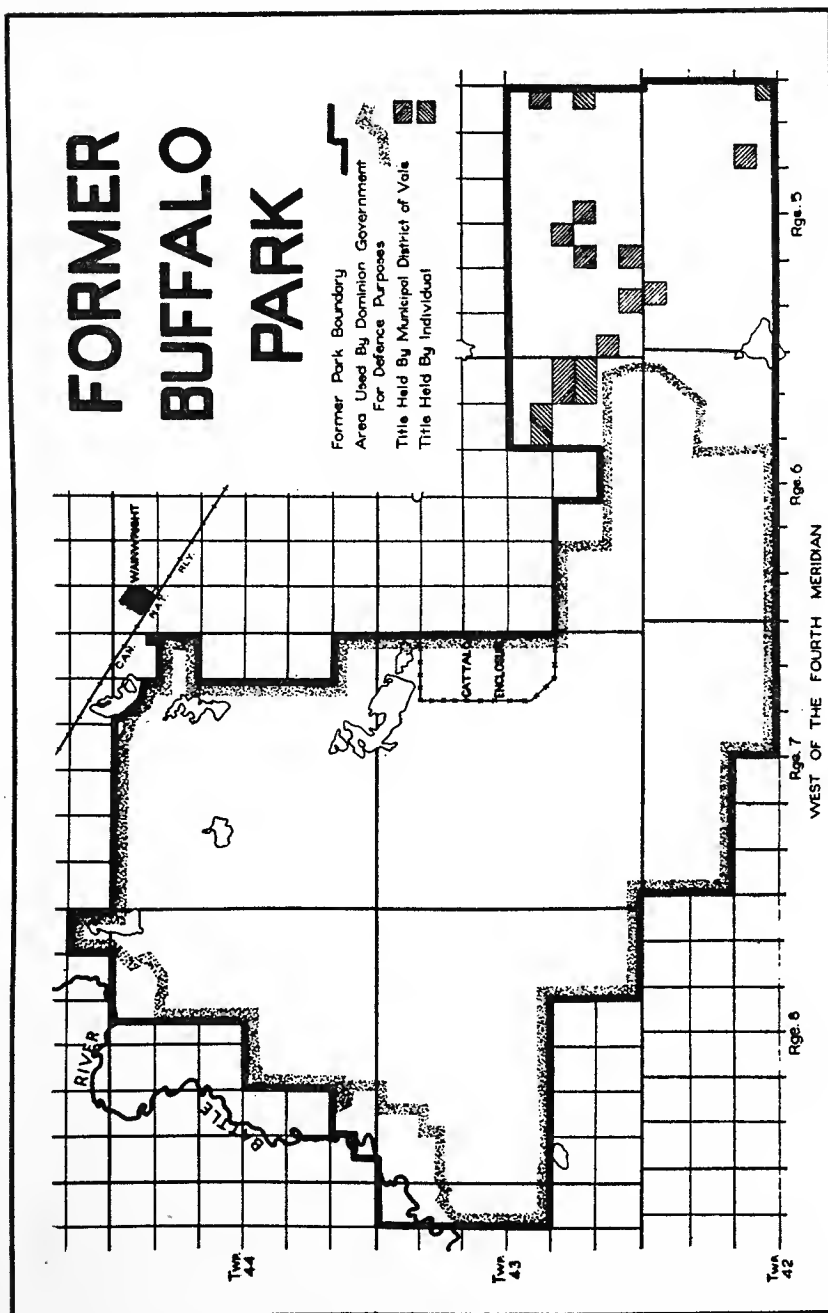
NEMISKAM NATIONAL PARK

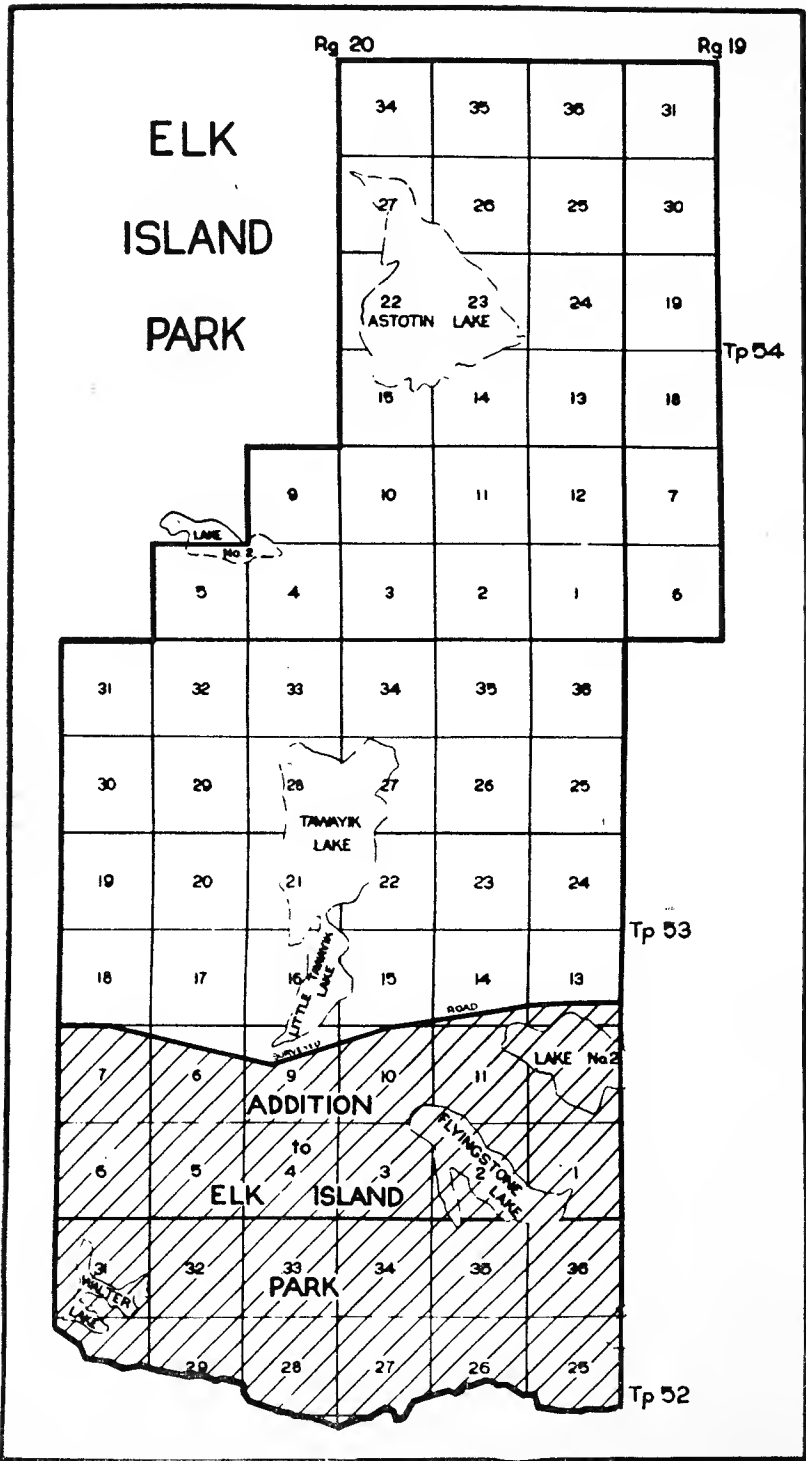
Nemiskam National Park is a very small area comprising approximately $8\frac{1}{2}$ sections near the town of Foremost in southern Alberta. In 1916 this area was fenced to enclose a small herd of Antelope which was found in the district. At the time it was considered that the Antelope, one of the most interesting native wild animals of the Prairies, was threatened with extermination. This condition, however, no longer exists, hence the abolition of the park and the lands transferred to the jurisdiction of the Province.

BUFFALO NATIONAL PARK

Buffalo National Park near Wainwright contained 200.50 square miles. This Park was abolished because it is not considered necessary for the preservation of the Buffalo. As already referred to in this report the Province transferred approximately 24 sections from the Cooking Lake Reserve as an addition to Elk Island National Park and with this extension it is considered a herd of buffalo of sufficient size could be maintained there to guarantee the preservation of the species. In abolishing this park an agreement was reached between the Province and the Dominion whereby the areas used by the Department of National Defence for military training grounds and by the Department of Agriculture for experimental purposes, comprising 150.50 square miles, would be leased to the Dominion for as long as they were required for such purposes. The Park was duly abolished and the land transferred to the jurisdiction of the Province and the agreement above referred to was duly executed by Canada and Alberta on the 8th day of November, 1947.

An unusual feature regarding the lands within the boundaries of Buffalo Park was the fact that the Dominion Government had ac-





quired by purchase from the private owners a large number of quarter sections that fell within the boundaries of the Park when it was established. In acquiring title to these lands in the name of the Province it was discovered that there were still within the established boundaries of this park many quarter sections in the name of the Municipal District of Vale and in the name of private individuals. Included in this report is a plan of Buffalo Park showing this situation.

WATERTON LAKES NATIONAL PARK

Bill M-9 provided for the withdrawal of 16 sections of land from the extreme easterly end of this park. The land was not considered suitable nor was it required for park development, but was of value especially as grazing and timber lands for the benefit of the settlers in the vicinity. The area so deleted is not under the administration of the Province.

MINERALS IN THE NATIONAL PARKS

Under the Natural Resources Agreement Canada holds jurisdiction over the mines and minerals underlying the Parks, but due to changes in the boundaries of these parks it was necessary to make provision to legalize the status of the mineral rights as well as surface rights and accordingly an addition to the Provincial Lands Act was made to provide authority for the Minister of Lands and Mines to:—

“... enter into an agreement or agreements with His Majesty in the right of Canada which transfers to Canada for National Park purposes all the right, title and interest of His Majesty in the right of Alberta to any lands in Alberta, including road allowances, surveyed roads, road diversions, and mines and minerals.”

This amendment permitted of the recommendation to Council which was duly approved on the 11th day of February, 1948, and under Order in Council 142/48 the registration of the plan of the Banff National Park was made in the Calgary Land Titles Office under No. 3845 E. Q. This plan was duly prepared and approved by the Dominion of Canada and the Province and its registration vests in His Majesty the King in the right of the Dominion of Canada all our established rights.

New plans were also prepared and approved by the Dominion of Canada and the Province showing the established boundaries of Elk Island, Jasper and Waterton Lakes National Parks. The Elk Island National Park Plan was registered under No. 3973 E. U. and the North Sheet of the Jasper Park plan and the South Sheet of the Jasper Park plan were registered under Nos. 3974 E. U. and 3975 E. U. respectively in the Land Titles Office at Edmonton.

The plan showing the revised boundaries of the Waterton Lakes National Park was registered in the Land Titles Office at Calgary under No. 7673 E. X.

Order in Council 143/48 was issued upon the recommendation of the Minister, which granted authority upon the registration of these plans to vest the surface and mineral rights in Canada to the same extent as the rights referred to upon the registration of the plan of the Banff National Park.

The registration of the plans of the National Parks, above referred to, did not create any title but any titles that were in existence, whether in the name of the Dominion or the Province, were cancelled upon such registration.

The revised boundaries of these National Parks and the status of the minerals therein, including those underlying road allowances, surveyed roads and road diversions, have been under discussion for some years between Canada and the Province and it is a source of satisfaction that these questions have now been finally settled.

The National Parks Act, of course, fully describes the areas contained within the National Parks, which includes additions and deletions. However, instead of reading through long descriptions where boundaries are described as running along heights of land, water sheds and valleys, etc., these boundaries have been definitely delimited upon plans registered in the Land Titles Offices and now constitute the legal boundaries of the National Parks.

A glance at the chart shows that up to the end of March 31st, 1948, a grand total of 4,526,977.47 acres have now been patented by the Province since the natural resources were returned to the Province. This area, of course, does not include the lands in the now established boundaries of the National Parks, which have now been officially quit claimed.

Actually during the last fiscal year only 129,374.829 acres, more or less, and various lots in subdivisions referred to at the beginning of this report, were patented during the fiscal year. This area was somewhat less than the previous year.

On the other hand a total of 3,755,766.525 acres, more or less, have been returned to the Province through revestment or tax recovery proceedings and of this area 2,542,891.125 acres, more or less, lie within the Special Areas.

Particulars of these areas are as follows:

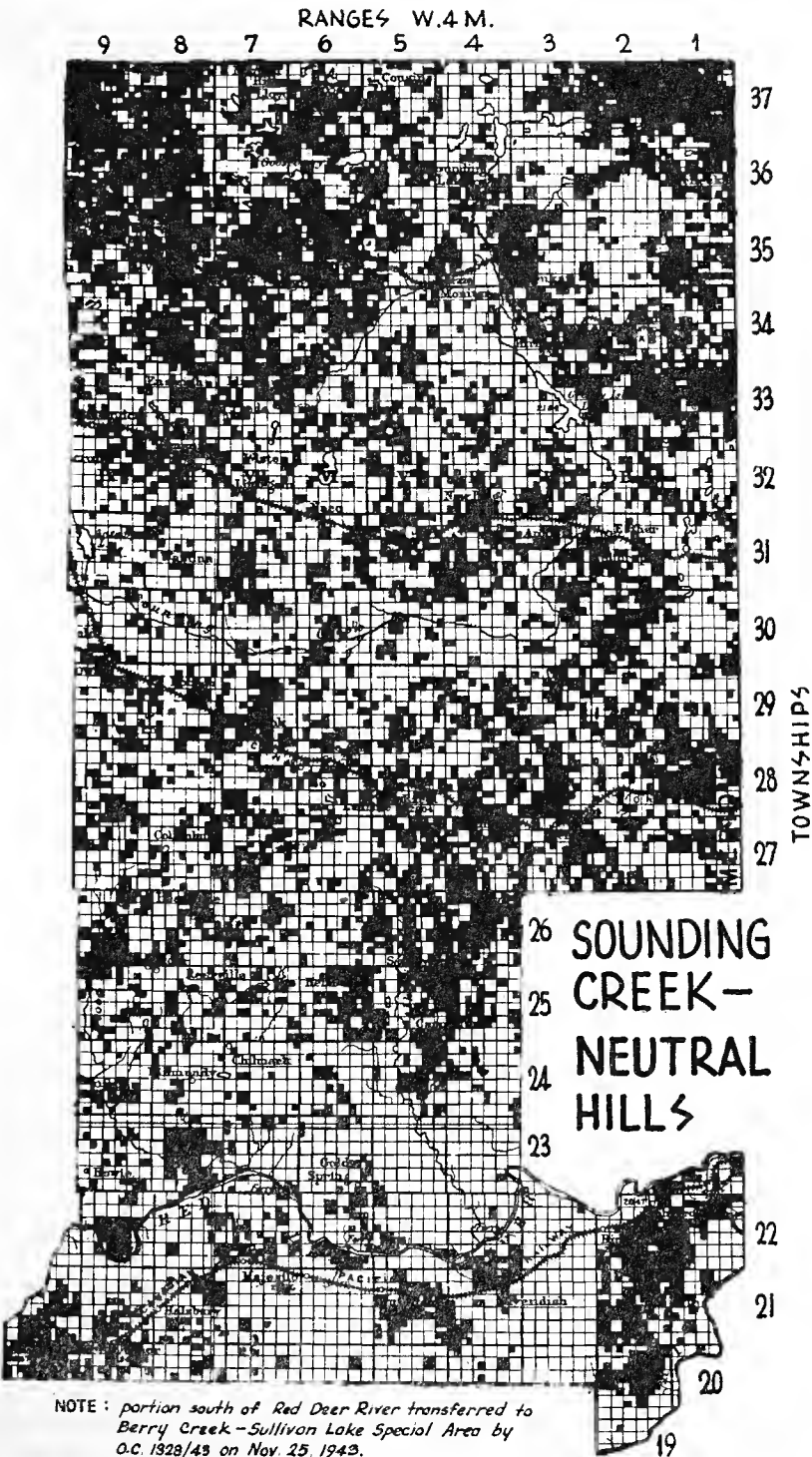
TAX RECOVERY AND REVESTED LANDS
(INSIDE SPECIAL AREAS)

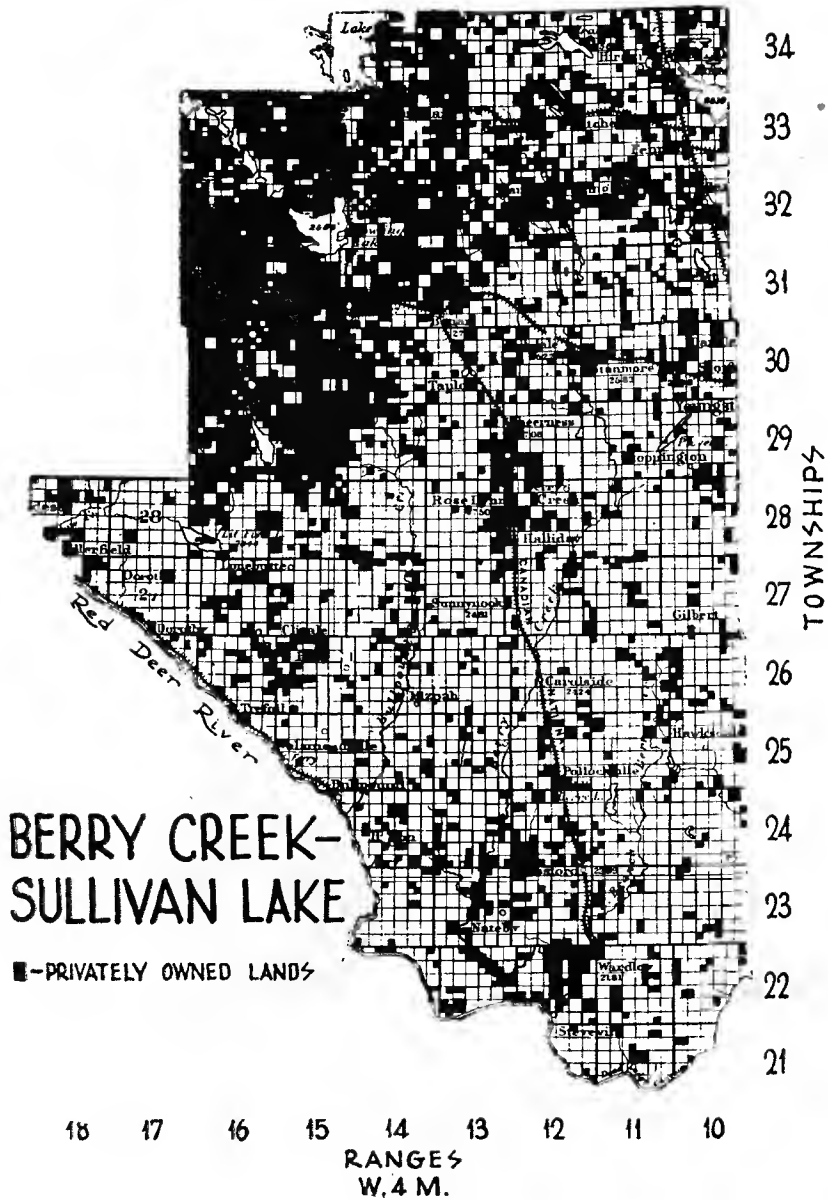
	As on March 31, 1947	From April 1, 1947 to March 31, 1948	Total to March 31, 1948
Tax Recovery.....	2,321,670.07 acres	41,391.285 acres	2,363,061.355 acres
Revested.....	175,560.82 acres	4,268.95 acres	179,829.77 acres
Total.....	2,497,230.89 acres	45,660.235 acres	2,542,891.125 acres

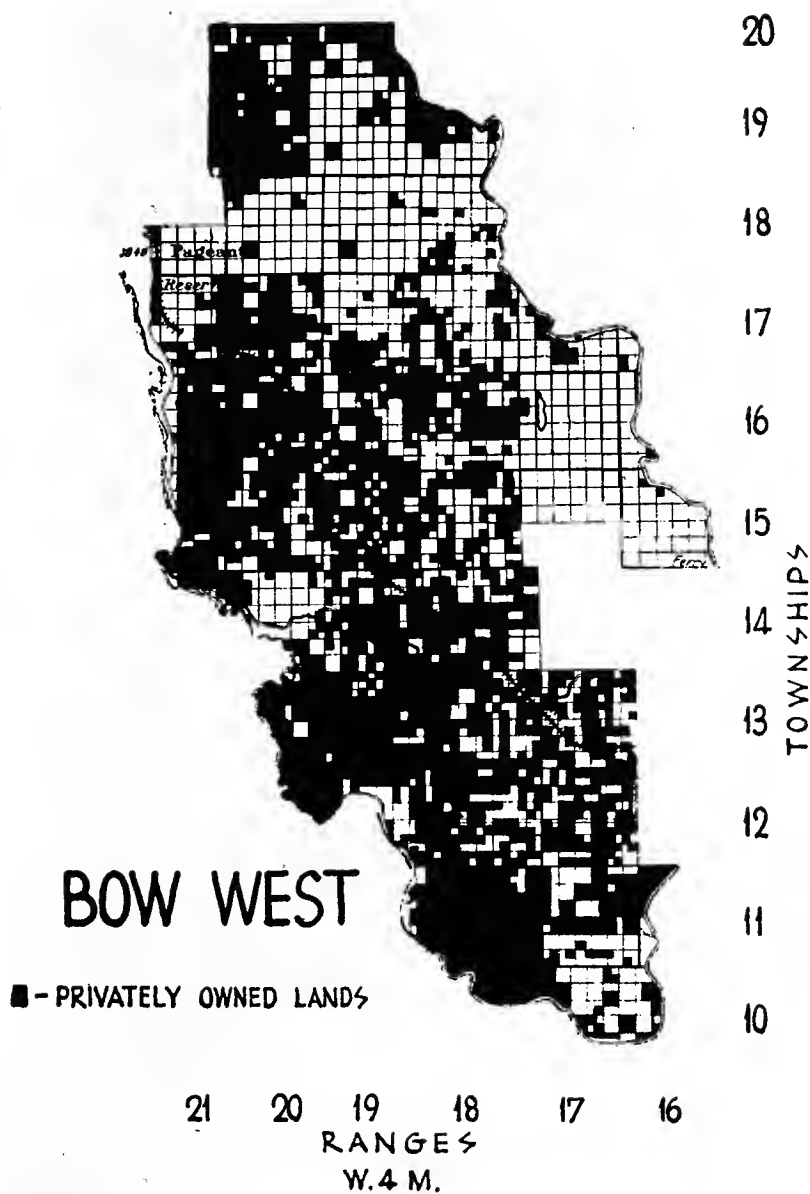
TAX RECOVERY AND REVESTED LANDS
(OUTSIDE SPECIAL AREAS)

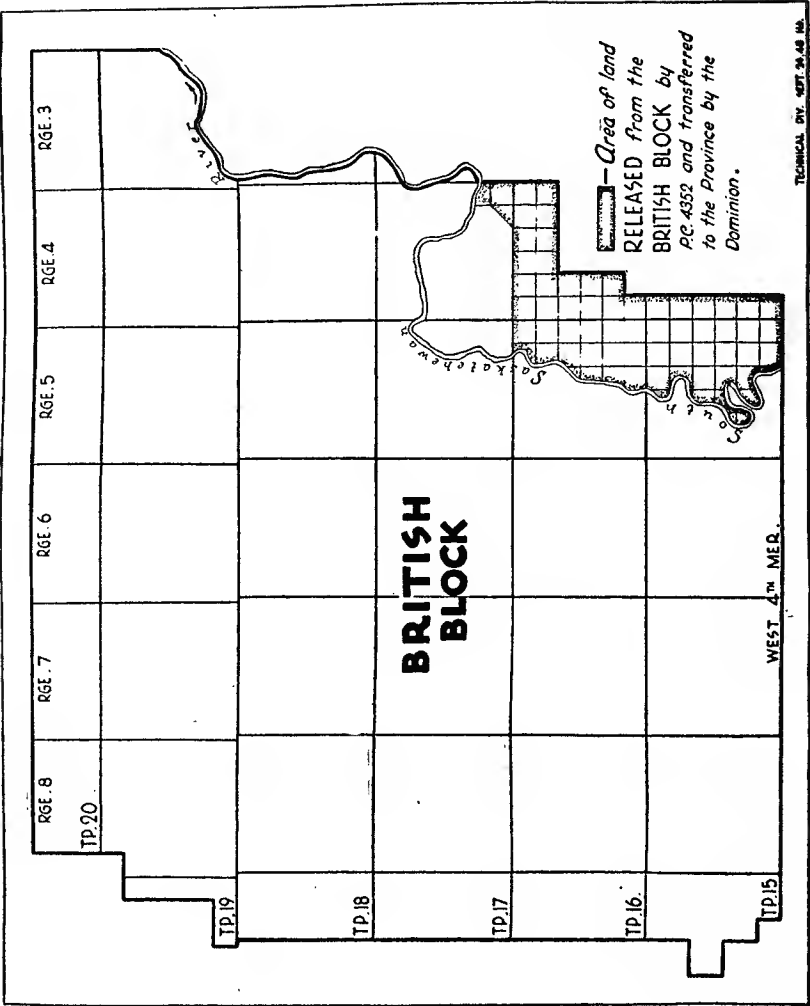
	As on March 31, 1947	From April 1, 1947 to March 31, 1948	Total to March 31, 1948
Tax Recovery.....	726,857.21 acres	40,248.42 acres	767,105.63 acres
Revested.....	438,910.19 acres	6,859.58 acres	445,769.77 acres
Total.....	1,165,767.40 acres	47,208.00 acres	1,212,875.40 acres

Plans are herewith submitted showing the state of ownership of the lands in the Special Areas, including 41,391.285 acres, more or less, which have now reverted from private ownership to the Crown.









BRITISH BLOCK

During the war an area of approximately 600,000 acres north of Medicine Hat was set apart for the Dominion Government for war purposes and with the close of the war it became apparent that an area of land comprising 33,000 acres, more or less, could be released from the British Block and utilized for urgently needed grazing purposes. Representations were therefore made to Ottawa and on the 24th October, 1947, P.C. No. 4352 was passed, releasing this area from the British Block and conveying to the Province of Alberta.

Most of these lands had been patented and during the course of time His Majesty the King in the Right of the Province of Alberta, the Outlook Development Company and Mr. H. G. Minor became the owners of various sections, as revealed by the records of the Land Titles Office, but were, of course, subject to the Dominion Government Order of Expropriation. Most of the titles were received but certain titles were missing, thus delaying the registration of these lands in the name of the Province. Eventually a statutory declaration was received from the Legal Division of the War Assets Corporation as to the loss of the titles and this enabled the registration of a P.C. Order and titles were received in the name of the Province to the tract of land lying to the south and east of the South Saskatchewan River, as shown upon the plan of the British Block.

DUCKS UNLIMITED

Ducks Unlimited has submitted 29 applications for Licenses of Occupation covering approximately 21,048.19 acres of land in the Special Areas, which land has been placed under provisional reservation in our records. These areas are located on lakes and to a certain extent include the shore line for nesting areas for the protection and propagation of wild duck life in our Province.

Ducks Unlimited has submitted 29 plans for these projects, which are on file in the Technical Division, listed as follows:

Plan No.	Project	Area	Plan No.	Project	Area
384	Pearce Lake.....	202.45 acs.	423	A. Picombe	86.30 acs.
385	Bloor Lake.....	27.70 acs.	424	Major Lake.....	374.30 acs.
386	Barton Slough.....	258.95 acs.	425	Edgewood Lake.....	892.80 acs.
387	Garden Lake.....	148.05 acs.	426	South Richdale.....	73.70 acs.
388	Antelope Lake.....	2,133.20 acs.	433	Cow Creek Diversion..	338.20 acs.
389	Kern Lake	86.10 acs.	441	Mud Lake.....	2,949.80 acs.
390	McFarlane Lake	114.60 acs.	442	Bell Lake.....	916.40 acs.
391	Plover Lake	2,466.77 acs.	443	Fleshfly Lake.....	4.60 acs.
392	Lake Coleman.....	3,716.97 acs.	444	South Spondin Lake....	107.40 acs.
393	Badger Lake.....	2,099.20 acs.	445	Kirby Lake.....	44.70 acs.
418	Lost Lemon Lake	409.10 acs.	446	Baxter Lake.....	118.30 acs.
419	Berry Lake.....	1,165.90 acs.	447	Housch Lake.....	53.60 acs.
420	Snead Lake	310.70 acs.	448	Willow Bend.....	361.80 acs.
421	McBride Dam.....	254.80 acs.	449	North Spondin Lake....	660.20 acs.
422	Traung Lake	671.60 acs.			
					21,048.19 acs.

Total Area under Provisional Reservation—21,048.19 acres.

EXCHANGES OF LAND

The terms and conditions under which a settler within the Special Areas may exchange his own deeded lands for Crown lands were fully explained in last year's report and it is very gratifying to report

that the settlers continued to take advantage in each succeeding year since the passing of Order in Council No. 647 in the year 1941, whereby a settler with scattered holdings in more or less unproductive areas may exchange his lands for more suitable Crown lands in a consolidated block closer to transportation and school facilities, etc.

The following exchanges were completed and the settlers received title to the Crown land in exchange for their abandoned lands:

File	Name	Land to Applicant	Land to Crown	Order in Council	Notification issued
2-154	Mrs. A. C. Anderson.....	Sec. 10 and 15-30- 9-W4	N.½ 14, N.½ and S.E. 13, N.E. 5, S.½ 10-31- 9-W4	556/46, 2/ 1/46	25/ 6/47
2-218	O. G. Anderson.....	N.W. 34-26-14-W4	N.E. 15-27-14-W4	1809/45, 15/11/45	25/ 6/47
2-226	A. W. Anderson.....	N.½ 34-20- 8-W4	S.½ 27-10- 8-W4	117/46, 25/ 6/46	30/ 8/47
2-195	A. Biletsky.....	N.W. 27-22- 6-W4	N.W. 23-22- 6-W4	224/46, 6/ 2/46	5/ 3/48
2-212	J. C. Bennett.....	E.½ 14-11-17-W4	W.½ 30-11-17-W4	1807/45, 15/11/45	13/ 5/47
2-219	C. H. Carrington.....	E.½ 23-17-19-W4	E.½ 8-17-18-W4	1666/45, 9/ 9/45	6/ 6/47
2-125	A. W. Clarke.....	S.E. 16-17-19-W4	N.E. 28-17-19-W4	531/45, 12/ 4/45	21/ 5/47
2-169	J. A. Coulter.....	S.E. 16-25-13-W4	N.E. 18-25-13-W4	1163/44, 2/ 8/44	5/12/47
2-227	O. F. Carlson.....	N.W. 24-25- 8-W4	S.E. 12-25- 8-W4	24/46, 2/ 1/46	3/11/47
2-213	Mrs. A. Egeland.....	S.E. 32-14-18-W4	S.W. 32-17-18-W4	1810/45, 15/11/45	21/ 5/47
2-223	G. Hedges.....	S.W. 28-16-19-W4	S.E. 7-16-18-W4	1720/46, 24/ 9/46	5/ 3/48
2-79	A. J. Hiltbrand.....	N.W. 16-31-10-W4	N.E. 24-32-10-W4	879/46, 20/ 5/46	2/ 7/47
2-189	R. A. Johnston.....	N.E. 12-26- 6-W4	S.W. 27-25- 6-W4	898/46, 20/ 5/46	16/12/47
2-209	G. Kruschel.....	S.E. 13-33- 1-W4	W.½ 5-33- 1-W4	20/46, 2/ 1/46	26/ 8/47
2-191	G. Mullen.....	W.½ 5-17-18-W4	S.W. 22-18-18-W4	19/46, 2/ 1/46	14/ 8/47
			S.W. 20-18-18-W4		
2-216	R. H. Meade.....	S.E. 27-27- 3-W4	N.W. 11-28- 3-W4	1679/45, 12/10/45	13/ 5/47
2-193	A. A. McAlister.....	S.½ 12-16-19-W4	S.½ 26-16-19-W4	245/46, 6/ 2/46	2/ 6/47
2-229	S. Petroff.....	S.E. 27-34- 3-W4	N.W. 12-35- 3-W4	22/46, 2/ 1/46	6/ 6/47
2-228	Mrs. W. H. Quain.....	S.W. 15-26- 4-W4	S.W. 19-26- 4-W4	21/46, 2/ 1/46	13/ 5/47
2-214	M. G. Rogers.....	N.E. 18-29- 5-W4	N.E. 30-29- 5-W4	508/46, 18/ 3/46	24/ 9/47
2-82	F. Symes.....	S.W. 24-31- 4-W4	N.W. 22-32- 4-W4	71/46, 7/ 1/46	26/ 6/47
2-206	G. A. Vert.....	S.W. 23-34- 3-W4	S.E. 19-33- 2-W4	1808/45, 15/11/45	14/ 5/47
2-203	C. E. Veno.....	N.E. 7-26-14-W4	S.W. 10-26-14-W4	1057/45, 26/ 6/45	22/11/47
2-220	P. F. Wright.....	S.E. 13-30- 5-W4	N.½ 7-30- 4-W4	1693/45, 18/10/45	13/ 5/47
		N.W. 13-30- 5-W4			

The following exchanges are pending and after the applicant has shown his good faith by remaining on the Crown land one year after the Crown has received title to his land then he will be granted title to the land comprising his new holdings:

File	Name	Land to Applicant	Land to Crown	Order in Council	Expiry date of residence clause
2-253	M. C. Anderson.....	W.½ 27-24- 5-W4	N.½ 31-22- 5-W4	556/47, 3/ 6/47	20/ 9/48
2-240	A. Blue.....	S.W. 13-32- 2-W4	S.E. 27-32- 2-W4	309/47, 3/ 4/47	17/10/48
2-245	A. E. Brown.....	W.½ 7 and S.E. 12-28- 4-W4	N.W. 2 and E.½ 3-30- 5-W4	8/47, 7/ 1/47	11/ 6/48
2-234	A. Christianson.....	N.W. 32-30- 5-W4	S.E. 32-32- 4-W4	556/47, 3/ 6/47	2/ 8/48
2-121	A. M. Dornan.....	N.W. 33-25-14-W4	S.W. 33-25-14-W4	1380/43, 31/ 8/43	1/ 4/48
2-256	Leonard Huff.....	S.E. 19-16-19-W4	N.W. 4-17-17-W4	309/47, 3/ 4/47	9/ 9/48
2-247	J. Oster.....	N.W. 5-33- 9-W4	S.E. 21-33- 8-W4	411/47, 29/ 4/47	9/ 9/49
2-249	Geo. C. Standing.....	N.W. 15-33-13-W4	E.½ 22-33-13-W4	411/47, 29/ 4/47	31/ 7/48
		S.W. 22-33-13-W4			
2-238	Thomas Thulien.....	N.W. 9-34- 8-W4	N.W. 33-33- 8-W4	176/47, 18/ 2/47	25/ 7/48
2-242	C. B. Howe.....	N.½ 35, Fr. N.E. 36-22- 7-W4	S.W. 15, S.E. 16- Fr. N.W. 10-22-6-W4	580/47, 3/ 6/47	9/ 9/48

The terms and conditions governing exchanges of lands outside of the Special Areas are somewhat different to exchanges granted in the Special Areas. In addition to proving good faith by performing settlement duties, including residence and cultivation or the maintenance of livestock, to the satisfaction of the Minister,* the Provincial lands selected must not exceed the acreage of the property surrendered

and the exchange is made on the basis of value for value following an investigation and corroboration of the representations made by the applicant.

The applicant must pay the amount of the difference where the Provincial land is of higher value than the surrendered land, but in no circumstances shall the Department pay the applicant the amount of any difference where the land is of greater value than the Provincial land selected.

Further, the applicant is required to pay in addition a further sum of \$25.00 in respect of each quarter section of land or fraction thereof comprised in the exchange.

The following exchanges have been completed outside the Special Areas:

File	Name	Land to Applicant	Land to Crown	Order in Council	Notification issued
110243	T. Usher	Sec. 8-34-19-W4	Sec. 19-34-19-W4	1805/45, 15/11/45	4/ 7/47
83767	Canada Trust Co.	S.E. 18-13- 1-W4	S.E. 1-13- 2-W4	1083/47, 21/10/47	4/ 2/48
110293	W. Stehr	S.E. 10-13- 3-W4	S.W. 18-13- 3-W4	1805/45, 15/11/45	26/11/47

FORT ASSINIBOINE RESERVE AND WHITE MOUNTAIN POST

A rather unusual exchange of lands was effected involving these two old disbanded Hudson's Bay Company Posts.

The Fort Assiniboine Reserve comprised an area of 50 acres and the White Mountain Post, an area of 40 acres. These areas were selected, surveyed, and patent issued, long before the areas in which they are located were subdivided into townships. Many years afterwards the Dominion Government authorized the survey of the surrounding lands but unfortunately the surveyor overlooked the existence of these Posts and final plans of the surveys of the townships in which the Posts were located did not show their existence, with the result that the Dominion Government again issued patents for the same land occupied by the Posts but were described in the form of certain quarter sections.

The existence of the duplication of Titles to the same lands has been known for years and it was only after long negotiations between the Hudson's Bay Company and this Department that the issue has been finally settled. It was settled by the Hudson's Bay Company transferring these two Posts, including the minerals as well as the surface, to the Province, in return for which the Province transferred to the Hudson's Bay Company the S.W. $\frac{1}{4}$ of Section 29, Township 77, Range 6, west of the 6th Meridian, but reserving thereout all mines and minerals.

The Fort Assiniboine Post was located in the vicinity of Section 36, Township 61, Range 6, west of 5th Meridian, south of the Athabasca River but there appears to be no evidence of any Post ever being established at this location, but it is interesting to note that just north of the river at this point old cellars are still to be seen, the buildings having been destroyed by fire. There is also evidence of old relics that have been dug out of cellars, such as old canon balls, old hinges, locks and numerous other articles and there are old trails running in every direction. According to a report it is said that this location was an ideal site for an old fort.

The White Mountain Post was located in the vicinity of Section 28, Township 77, Range 6, west of the 6th Meridian in the Spirit River area of the Peace River District.

ROADWAYS

There were only 25 plans of survey of roadways received from the Director of Surveys of the Department of Public Works and which surveys affected only forty-five parcels of Crown lands. Following the usual practice these areas were granted free for roadway purposes except in cases where the lands had been alienated and in such cases the areas required for the roadways were purchased by the Department of Public Works and the private purchaser of the Crown land compensated accordingly.

This number of surveys in no way represents the large number of road surveys that must have been executed throughout the Province for main highways and other Provincial roads, but is an indication that as the years roll by the extent of the Crown lands affected by such roadways becomes less and less, due to a steady demand for title to Crown lands by the settlers of our Province.

LICENSES OF OCCUPATION (Logging Roads)

The apparent never ceasing demand for lumber still continues unabated and many applications for licenses of occupation for logging roads over which to haul lumber, were received, of which the following were granted:

License No.	Name	Term	Project	Land
177	E. C. Dawley	Pleasure	Logging Road	Twp. 73-17-W.5 Twp. 72-18-W.5
180	Skaswski	Pleasure	Logging Road	Twp. 66, Rgs. 2 and 3, W.5
181	G. G. Fowler	Pleasure	Logging Road	Twps. 68, 70 and 71, Rge. 22-W.4
182	Whitecourt Lumber Co.	Pleasure	Logging Road	Twps. 59 and 60, Rge. 12-W.5
183	Park Bros.	Pleasure	Logging Road	Twp. 79, Rgs. 7, 8 and 9, W.6
185	Canyon Creek Lumber Co.	Pleasure	Logging Road	Twps. 70 and 72, Rgs. 2 and 3, W.5
186	Geo. E. Boake	Pleasure	Logging Road	Twp. 57, Rge. 25, W.5
188	H. H. Smith	Pleasure	Logging Road	Twps. 85 and 86, Rge. 25, W.5
189	T. A. Kruchowski	Pleasure	Logging Road	Twps. 56 and 57, Rge. 12, W.5
191	McRae Lumber Co.	Pleasure	Logging Road	Twps. 72 and 73, Rge. 8, W.5
192	Frank Walker	Pleasure	Logging Road	Twp. 49, Rge. 9, W.5
195	B. Hystad	Pleasure	Logging Road	Twps. 67 and 68, Rge. 8, W.6
196	G. G. Fowler	Pleasure	Logging Road	Twps. 72 to 76 incl., Rge. 23, W.4
194	J. Sanborn	Pleasure	Logging Road	Twp. 75, Rge. 4, W.6

MISCELLANEOUS LICENSES OF OCCUPATION

License No.	Name	Term	Project	Land
179	Inland Fisheries	Pleasure	Wharf site	N.E. 17-73-11-W.5
184	Otten & Moore	Pleasure	Irrigation Scheme	Sec. 17, 18 and 36-10-7-W.4
187	Calgary Power Co.	Pleasure	Transmission line	Twp. 24, Rgs. 8 and 9, W.5
190	Calgary Power Co.	Pleasure	Transmission line	Twp. 24, Rge. 8, W.5
197	Calgary Power Co.	Pleasure	Transmission line	N. boundary Sec. 32-24-8-W.5 to W. boundary Stony Indian Reserve 25-8-W.5
198	Les Reverends Peres. Oblats de Marie			
	Immaculate	Pleasure	Camping ground	L.S. 14, Sec. 8-52-2-W.5
80	Calgary Power Co.	Pleasure	Transmission Line	Twp. 50, Rgs. 20 and 21, W.4

RIGHTS OF ENTRY

Many Rights of Entry were granted over Crown lands, conspicuously to oil companies, indicating the relentless, and as the records prove, successful search for oil:

RIGHTS OF ENTRY

R.E. File	Name	Board Order No.	Plan	Remarks
136	Imperial Oil Ltd.....	No Board Order	No	Pending
137	Gulf Research & Development Co.	No. 64, 12/ 2/47	Yes	
138	McColl Frontenac Oil Co.....	No. 34, 14/11/47	Yes	
139	California Standard Oil Co.....	No. 69, 24/ 2/48	Yes	
140	.....			Pending
141	Dominion Glass Co. Ltd.....	No Board Order	No	Pending
142	T. W. Duggan.....	No Board Order	No	Pending
143	McColl Frontenac Oil Co.....	No. 54, 20/ 6/47	Yes	
144	Northwestern Utilities Ltd.....	No Board Order	No	
150	California Standard Oil Co.....	No Board Order	No	Pending
151	City of Medicine Hat.....	No Board Order	No	Pending
152	City of Medicine Hat.....	No Board Order	No	Pending
153	McColl Frontenac Oil Co.....	No. 29, 3/7/47	No	
154	Alliance Oils Ltd.	No Board Order	No	Lease transferred to B.A. Oil Co. Pending
156	West Canadian Collieries Ltd.	No Board Order	No	Pending
157	McColl Frontenac Oil Co.....	No. 53, 9/8/47	Yes	
158	California Standard Oil Co.....	No. 68, 11/9/47	Yes	
159	Socony Vacuum Exploration Co.....	No. 90, 5/9/47	Yes	
163	McColl Frontenac Oil Co.....	No. 59, 17/9/47	Yes	
164	McColl Frontenac Oil Co.....	No. 58, 17/9/47	Yes	
165	City of Medicine Hat.....	No Board Order	No	Pending
166	Mt. Royal Collieries Ltd.....	No Board Order	No	Pending
167	McColl Frontenac Oil Co.....	No. 61, 17/10/47	Yes	
168	McColl Frontenac Oil Co.....	No. 60, 4/10/47	Yes	
169	McColl Frontenac Oil Co.....	No. 68, 6/11/47	Yes	
170	Kananaskis Coal Ltd.....	No Board Order	No	Pending, Forestry
171	C. M. Woodley.....	No Board Order	No	Pending, Forestry
172	Luscar Coals Ltd.....	No Board Order	No	Pending, Forestry
173	Gregg River Collieries Ltd.....	No Board Order	No	Pending, Forestry
174	Hillcrest Mohawk Collieries Ltd.....	No Board Order	No	Forestry
175	California Standard Oil Co.....	No. 70, 10/11/47	Yes	
176	McColl Frontenac Oil Co.....	No. 63, 12/ 1/47	Yes	
177	California Standard Oil Co.....	No. 67, 24/11/47	Yes	
178	Husky Oil and Refining Co.	No Board Order	No	Pending
179	Husky Oil and Refining Co.	No Board Order	No	Pending
180	Brazeau Collieries Ltd.....	No Board Order	No	Forestry
181	Royalite Oil Co. Ltd.....	No. 66, 23/2/48	Yes	
182	Brazeau Collieries Ltd.....	No Board Order	No	Forestry
183	Alliance Oil Co. Ltd.....	No Board Order	No	Pending, Lease transferred to B.A. Oil Co.
185	California Standard Oil Co.	No Board Order	Yes	Pending

NEW SURVEYS

On account of the unprecedented activity in the development of our Province the Alberta land surveyors are now in the position of having more work than it is possible to cope with. This situation is again reflected in the negligible extent of the surveys that were conducted on behalf of this Department:

S.W. $\frac{1}{4}$	13-83-12-W.6th	File 4-183
N.W. $\frac{1}{4}$	26-83-13-W.6th	File 4-183
S.W. $\frac{1}{4}$	35-83-13-W.6th	File 4-183
N. $\frac{1}{2}$	27-83-13-W.6th	File 4-183

For instance, the above lands have been on our survey programme for a number of years and in October, 1947, strong representations

were made to the Director of Surveys to make every effort to have the above lands surveyed as well as the balance of the unsurveyed area in Township 83, Range 13, west of 6th Meridian. The Director made it very definite that the situation regarding the services of qualified land surveyors was no better, particularly in the fall of the year when all the surveyors were rushing to complete their season's programmes before the winter would set in. At the close of this fiscal year the surveys of the above lands had still not been executed.

BEAVER HILL LAKE SURVEY

Reference was made in last year's report to a survey of the lands given up by the recession of Beaver Hill Lake in Townships 51, 52 and 53, Ranges 17 and 18, west of the 4th Meridian. The Department was fortunate in securing the services of a private surveyor and the survey duly completed. It is understood that the Surveys Branch of the Department of Public Works will commence on the preparation of township plans showing the new survey and lithographed copies will be published in due course.

ADDITION TO MINNEHIK (S.W. $\frac{1}{4}$ 11-46-6-W. 5th M.)

Many enquiries have been received for land for summer residences at the above location and upon investigation it was found that this location on the shore of Buck Lake has ideal possibilities for a summer resort.

In August, 1946, the Director of Surveys was requested to proceed with a subdivision survey and it was not until 1947 that the Director of Surveys was able to advise that a private surveyor had been appointed to do the work. According to the latest information it is expected that work on this survey will be commenced in the spring of 1948.

WILLOW CREEK SUBDIVISION (Pt. of L.S.'s 10 and 11, Sec. 7-28-18-W. 4th M.)

Due to the squatter situation at the above location it was deemed advisable by this Department to subdivide the land into lots and blocks and dispose of it in an orderly fashion, conforming as nearly as conditions would permit to requirements of the Town Planning Act. Accordingly on October 1st, 1947, the Director of Surveys was requested to appoint a surveyor to do this work. A survey was completed and the plan was registered on April 23rd, 1948, under No. 7935 E.X. in the Calgary Land Titles Office.

LEES CREEK—CARDSTON

Due to the ever changing course of Lees Creek through the Town of Cardston, representations were made to this Department regarding the status of the bed of this creek. The co-operation of the Water Resources Department was asked, with the result that a preliminary traverse of the present bed of the creek was made and a plan of survey was submitted. This survey showed the location of the creek to be entirely different to the Dominion Government surveys, and also to the surveys of the creek as shown upon the plan of subdivision registered in the Land Titles Office.

Owing to the somewhat complicated state of affairs it was suggested that the Secretary-Treasurer of the Town of Cardston negotiate with the Surveys Branch of the Land Titles Office in Calgary with a view to having a plan of the present location of the creek registered in the Land Titles Office and thus form a basis to negotiate and adjust the various titles of the lots affected by the creek.

KANANASKIS RIVER
(Sec. 33-24-8-W. 4th)

The Calgary Power Company Limited submitted a plan of survey of the Kananaskis River in Section 33 in connection with their power development scheme. Upon examination of this plan it was found that this survey of the river did not coincide with the survey of the river as shown upon the Township plan approved by Ottawa. It was claimed that the more recent survey of the Calgary Power Company represented the true location of the river, with the result that this Department approved of the survey on condition that the Calgary Power Company would undertake to complete the survey of the Kananaskis River according to the requirements of this Department, such survey, if necessary, to extend to Barrier Dam, depending upon the confliction with the survey as originally approved by the Dominion Government. The new location of the river was accepted by the Director of Surveys and prints of a plan of part of Township 24, Range 8, west of the 5th Meridian, have now been received, duly approved by the Director of Surveys.

SETTLEMENT AT PHILOMENA
(Twp. 71, Rge. 11, W. 4th)

The Secretary of the Department of Education asked that consideration be given to the subdivision of this township, as there were 13 families residing in the immediate neighbourhood and were reported to have 30 children of school age, and an additional 20 children under the age of six years.

The Department of Education was reluctant to establish a school district in this unsurveyed township, as there was no title property and therefore not assessable.

The Deputy Minister of this Department replied to the Secretary, to the effect that it was regrettable but impossible to proceed with an immediate survey as requested, as there were many other areas in the Province for which surveys have been promised and it would be some time before consideration could be given to this work.

However, in the meantime, a soil classification would be made during the summer of 1948 in order that the advisability of subdividing this township could be given consideration at a later date.

Sunchild Indian Reserve No. 202
O'Chiese Indian Reserve No. 203

For some years negotiations have been proceeding between Ottawa and the Provincial Government to establish Indian Reservations to take care of the Cree group of Indians, which group has now been taken into Treaty No. 6. The result of these negotiations culminated in the passing of O.C. 1962/44, whereby Canada was

allowed to select certain areas of unoccupied Crown lands and thus enable Canada to fulfil its obligations under the Treaties with the Indians of the Province. This Order in Council, however, specifically reserves all mines and minerals. Suitable areas were accordingly selected and a Dominion Land Surveyor appointed by Ottawa surveyed the new reservations. Final plans of survey have now been received and which plans have been duly approved by our Minister on behalf of the Province and the Director of Indian Affairs on behalf of Canada.

These Reserves are located in Townships 42 to 45, Ranges 9, 10 and 11, west of the 5th Meridian and lie north-west of Rocky Mountain House. The Sunchild Indian Reservation contains an area of 12,894 acres, more or less, and the O'Chiese Indian Reservation contains an area of 34,287 acres, more or less. It is the intention to vest the land by Certificate of Title in the name of Canada, but Canada has raised the question that the Indians are rightfully entitled to the minerals underlying these new reserves. This matter is now receiving the consideration of the Department.

NEW MAPS

After many delays and disappointments it was quite a relief to receive a shipment of our new 16-mile map of the Province; 5,296 copies of this map were received in June, 1947. Many favourable comments have been received regarding this fine map, which is in steady demand by the general public.

A great deal of time was spent in the preparation of a map in order to arrive at a line of demarcation where Provincial lands should be withheld from settlement and disposition, particularly lands unsuitable for agricultural pursuits, and thus prevent indiscriminate squatting on lands that are incapable of providing a livelihood for a settler and his family.

A large plan of the Province on a scale of 8 miles to the inch was prepared, showing the extent of the settlement along the fringes of the recognized settled areas and by means of this map and reconnaissance surveys it was possible to arrive at this line of demarcation. This matter has been receiving the attention of the officials of the Department for some years and it is a source of satisfaction to report that on the 29th January, 1948, Order in Council No. 113/48 was passed, accepting this plan, thus reserving large tracts of our Province as a nucleus for the establishment of a valuable forest cover which, if given the essential protection, will replenish to a very substantial degree in future years the timber cut to meet the unusual demand of today.

This large map was reduced in scale to approximately 40 miles to 1 inch and 10,000 copies were published, showing in green the Provincial lands which are withdrawn from settlement and disposition by O.C.113/48, and in yellow the Provincial lands open for agricultural leases by O.C.144/48.

Due to what would almost seem never ending difficulties and disappointments our new 8-mile map of the Province has not yet reached the press.

With the excitement and activity caused by the oil strike in the Leduc Field it was, of course, necessary to prepare a map of our new

producing field. This map is on linen tracing cloth and is kept up to date, showing the progress of the drilling of all wells and prints or photostats are available to the public, showing the latest information in this oil field.

DOMINION GOVERNMENT PUBLICATIONS

It is the intention of the Department of Mines and Resources, Ottawa, to re-publish the following maps and in accordance with our policy of co-operating with Ottawa in such matters they were checked with the latest available information and Ottawa was advised accordingly:

Blackfoot Sectional Sheet.....	No. 115
Peace Hills Sectional Sheet.....	No. 265
Fort Assiniboine Sectional Sheet	No. 364
Victoria Sectional Sheet.....	No. 365

Maps and descriptions were furnished the Chief Topographical Engineer of the Department of Mines and Resources in order that a suitable amount of base mapping for the Eastern Rockies Forest Conservation Board could be undertaken.

The following Sectional Sheet maps were re-printed during the year without revision:

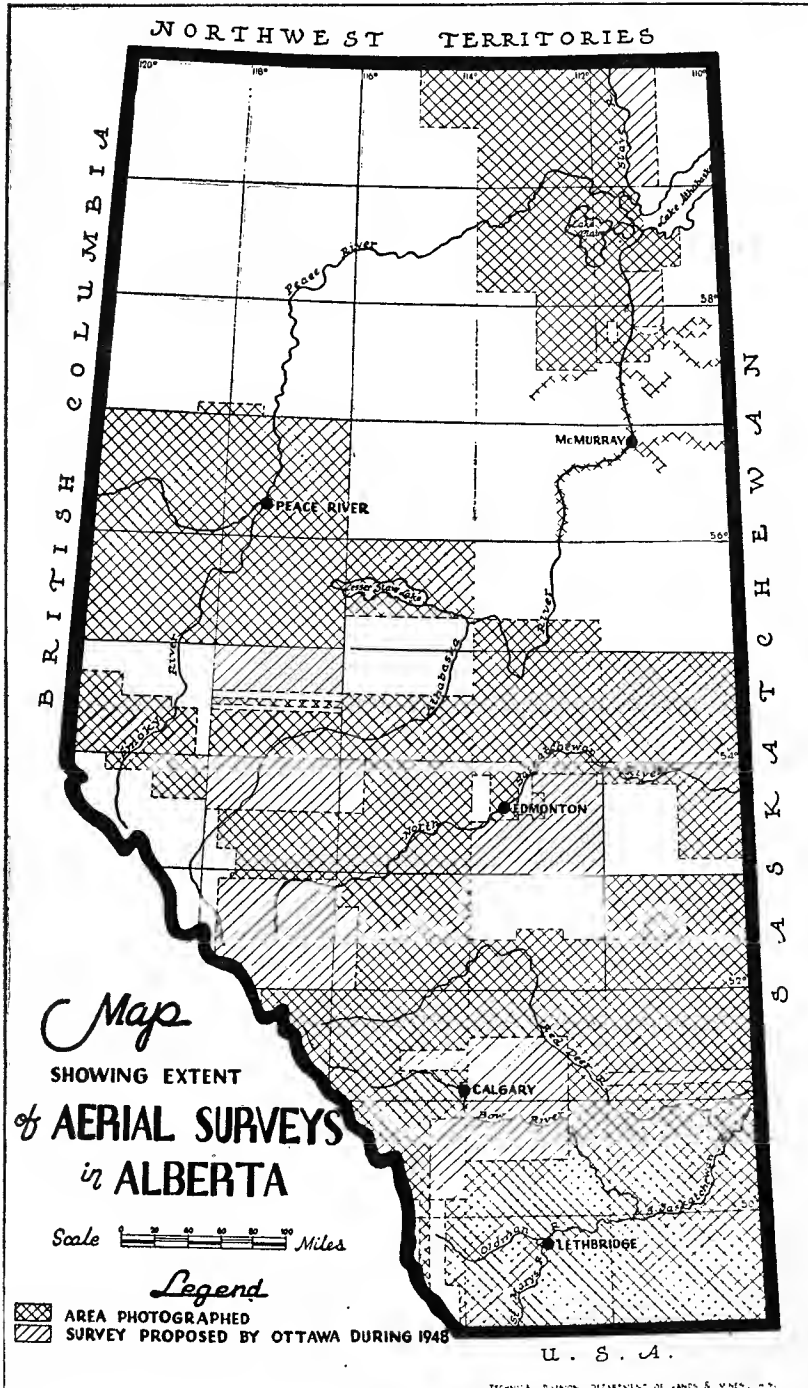
Medicine Hat Sectional Sheet.....	No. 66
Notikewin Sectional Sheet.....	No. 362

AERIAL SURVEYS

Included in this report is a map showing the extent of the areas that have been photographed and also the areas which the Dominion Government proposes to photograph during the year 1948.

It will be seen from this map that quite an appreciable amount of our Province has been photographed, although some of these aerial surveys were made considerably before the year 1935 and are not very satisfactory, as great strides have been made in the technique of aerial photography since then. Regardless of this, however, it may be considered somewhat surprising that the amount of aerial photographs in the possession of this Department, the Water Resources Branch and the Research Council, is practically negligible. In fairness, however, to this unfortunate state of affairs it must be recognized that the war was a great factor in delaying the setting up of a Provincial Aerial Photography Library. In view of the wealth of information that would be available through aerial photographs in this library from a topographical point of view, for geological research, forestry coverage, land settlement purposes and various other projects, it is strongly recommended that serious consideration be given to the building up of such a library, which would not only be available to all departments of the Government but also to the public at large. Repeated requests are being received in this Division for aerial photographs of various parts of the Province and in view of the unprecedented developments that are forging ahead, consideration should be given to this recommendation as soon as circumstances permit.

After discarding all photographs taken prior to 1935 it is estimated that the approximate cost of obtaining photographs from that year up to the present time and suitable filing equipment would amount



to approximately \$25,000.00 but this cost, like all other costs, will certainly rise as time goes on.

The National Air Photography Library at Ottawa was visited and it is fitting that a tribute be extended to the officials for their helpfulness and unflinching courtesy.

GENERAL DRAFTING AND LEGAL DESCRIPTIONS

The increased activity in all branches of the Department was reflected in the Technical Division. With sudden spurts in the volume of work it required a certain amount of tact and patience in order that the business of the Department would run smoothly and keep everyone satisfied. A tribute to the members of the Technical staff is certainly in order for this accomplishment.

The volume of work coming through the Lands Branch maintained its high level, necessitating numerous legal metes and bounds descriptions and plans and sketches.

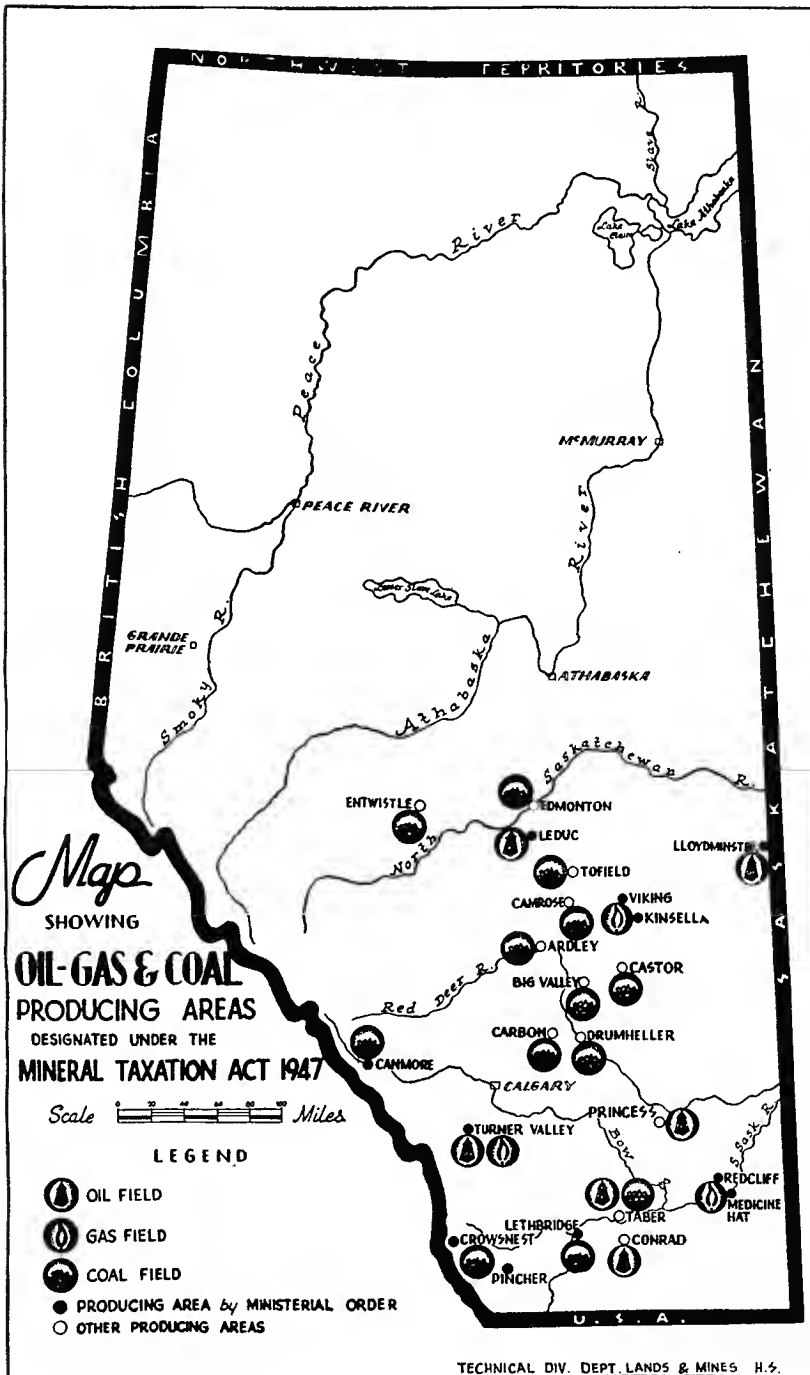
The relentless search for oil accelerated by the Leduc oil strike brought the representatives of many major oil companies to the Division for a variety of maps to enable them to set up complete office records.

The sale of township plans, noticeably heavy in this respect, and a special effort was made to co-operate with these companies in order to give them the fastest service possible so that there would be no delay in their continued search for oil. So great was the demand for the sectional sheet map of the Edmonton District that our stock soon disappeared and it was our misfortune to find at this very time that this map, which was a Dominion Government publication, had run out of print. This caused additional work, as substitutes had to be devised and this is where our photostat machine came to the rescue. The service provided by this machine is now fully established throughout all departments of the Government and among our newest clients can now be listed the Court Houses, for photostating legal documents. The mimeograph machine continues to roll out the work and the volume compares favourably with last year's high.

MINERAL TAXATION

The administration of the Mineral Taxation Act is still attached to this Division and increased activity is reported in all directions. The work, however, of sending out final notices to mineral owners for non payment of taxes, was curtailed, due to impending amendments in the Mineral Taxation Act. Perhaps it was just as well that this work was curtailed, as the present staff, in somewhat cramped quarters, could not have coped with the work.

The 1947 Mineral Taxation Act was subject to criticism, due to the fact that only the registered owner of the minerals was advised by a notice to the address appearing on his title in the Land Titles Office, that unless the arrears of taxes were paid within one year the Crown could proceed to take title. It was claimed that other interested parties who claimed an interest by means of a caveat, mortgage, lien or other encumbrance, may suffer an injustice and the 1947 Act was accordingly amended, whereby the Registrar of the Land Titles Office must notify all such interested parties.



The 1947 Act was further amended to eliminate the issue of titles in the name of the Crown upon registration of a notice in Form "A". It was decided that this was unnecessary because once the Crown acquired the rights to the minerals such rights would always remain with the Crown, because there is no provision in the Provincial Lands Act for the Crown to dispose of minerals, excepting by lease and in very rare circumstances, by exchange. The Registrar, by this amendment, was authorized to vest the minerals in the name of the Crown, thus eliminating the additional work of writing a title.

Reference was made in last year's report to the discovery by the Imperial Oil Company Limited at the Leduc Oil Field and in the history of the Canadian Oil Industry, it is now recognized that the brightest chapter written in the shortest time is headed "LEDUC." Not only has this field been written up in all the leading industrial and commercial journals of the North American Continent but also in the News of the World Series in the movies the magic name of Leduc has flashed across the screen.

After this discovery the major oil companies of America immediately headed for Alberta and established headquarters to join in the greatest search for oil that this Province has ever known.

The huge programme that is now under way is being increased in tempo and it is the belief that other important fields will be discovered.

This directly affects the administration of the Mineral Taxation Act and already revenues through the Leduc discovery are taking a sharp curve upward. An interesting comparison shows that for the previous fiscal year the producing area tax was \$125,742.91 as compared with \$179,694.16. A certain amount of this increase was due to the fact that the discovery of the Leduc well aroused a great deal of enthusiasm and many private mineral owners deluged the office with enquiries as to mineral tax arrears. Enquiries came from all over the continent and an interesting chapter could be written on this phase of the Mineral Taxation work alone. Many persons were jubilant when unexpectedly advised of their mineral ownership, whilst many callers at the office grieved to find that whilst they had toiled upon the land in days gone by they had unfortunately disposed of the land without reserving unto themselves all mines and minerals.

As to the increase in revenue in the acreage tax it is noted that \$231,062.93 was collected for the previous fiscal year, whereas it is gratifying to record that the acreage tax for the year under review amounted to \$294,039.82. Well over a million and a quarter dollars have now been collected in mineral taxes since the inception of the Mineral Taxation Act of 1941, which amount will pale into insignificance when the development of our untold resources gets into its proper stride. Details of our tax collections are as follows:

	Producing Area	Non Producing Area	Total
1941.....	\$ 24,532.61	\$ 50,588.32	\$ 75,120.93
1942.....	27,463.60	66,901.08	94,364.68
1943.....	40,308.01	61,767.14	102,075.15
1944.....	31,255.85	61,527.44	92,783.29
1945 Arrears 1944.....	71.80	160,054.33	160,126.13
1946.....	125,742.91	231,062.93	356,805.84
1947.....	179,694.16	294,039.82	473,733.98
			<hr/>
			\$1,355,010.00

LIST OF MINERALS OBTAINED THROUGH VOLUNTARY TRANSFER

	All Mines and Minerals	All Minerals except Coal and Petroleum	All Mines and Minerals except Petroleum and Valuable Stone	All Mines and Minerals except Coal, Natural Gas and Petroleum	All Mines and Minerals except Coal	All Mines and Minerals except Natural Gas and Oil	All Mines and Minerals except Petroleum and Natural Gas
	Area	Area	Area	Area	Area	Area	Area
From Jan., 1945 to Dec. 31, 1947	3,850.35	13,190.635	13,256.24	480.00	19,167.26	160.00	160.00
From Jan. 1, 1948 to March 31, 1948		1,557.62	1,280.00		294.00		
Total	3,850.35	14,748.255	14,536.24	480.00	19,461.26	160.00	160.00

LIST OF MINERALS OBTAINED THROUGH NON-PAYMENT OF MINERAL TAX

	All Minerals	All Minerals except Coal and Petroleum	All Minerals except Petroleum and Valuable Stone	All Minerals except Coal	All Mines and Minerals except Petroleum	All Mines and Minerals except Coal, Natural Gas and Oil	All Mines and Minerals except Petroleum and Natural Gas
	Area	Area	Area	Area	Area	Area	Area
To March 31, 1948	793.85	318.02	1,117.00	4,194.10			
Total	793.85	318.02	1,117.00	4,194.10			
Total to March 31, 1948	4,044.20	15,066.275	15,653.24	23,655.36	160.00		160.00

Attached hereto is a plan showing the oil, gas and coal producing areas designated under the provisions of the Mineral Taxation Act.

UNEARNED INCREMENT TAX

The Unearned Increment Tax came into force under legislation enacted at the 1945 Session of the Legislature and whilst the tax was unpopular at the time it is now generally accepted, although on occasions some assignments, which are somewhat involved, entail a great deal of correspondence and tactful interviews in order to establish the true consideration.

Although the number of assignments under review this year was much greater than last year, the revenue unfortunately was much lower; 756 assignments were examined last year, with the revenue amounting to \$34,979.60 plus certain Royalty Agreements, whereas this year 902 assignments were examined and \$14,330.10 collected, plus Royalty Agreements on 10 assignments and in three cases shares were accepted. Details of these assignments are as follows:

	No.	Amount
P. & N.G. Reservations.....	4	\$1,700.00
P. & N.G. Reservations.....	1	Royalty Agreement
P. & N.G. Reservations.....	49	No Tax
Dredging Leases.....	9	No Tax
Coal Mining Leases.....	4	\$419.00
Coal Mining Leases.....	12	No Tax
P. & N.G. Leases.....	13	\$1,141.00
P. & N.G. Leases.....	9	Royal Agreement
P. & N.G. Leases.....	3	Shares
P. & N.G. Leases.....	196	No Tax
School Land Cultivation and Grazing Leases.....	46	\$882.39
School Land Cultivation and Grazing Leases.....	32	No Tax
School Land Sales.....	6	\$626.03
School Land Sales.....	21	No Tax
School Land Grazing Permits.....	16	\$229.97
School Land Grazing Permits.....	15	No Tax
Provincial Land Sales.....	3	No Tax
Provincial Land Miscellaneous Leases.....	2	\$ 6.00
Provincial Land Miscellaneous Leases.....	2	No Tax
Provincial Cultivation and Grazing Leases.....	28	\$610.00
Provincial Cultivation and Grazing Leases.....	21	No Tax
Provincial Grazing Leases.....	143	\$7,590.00
Provincial Grazing Leases.....	69	No Tax
Provincial Lands Cultivation Permits.....	3	\$197.97
Provincial Lands Cultivation Permits.....	8	No Tax
Provincial Lands Grazing Permits.....	113	\$150.01
Provincial Lands Grazing Permits.....	17	No Tax
Timber.....	13	\$777.73
Timber.....	34	No Tax
Total.....	902	\$14,330.10

FORM OF TAXES

No tax collected.....	488
Cash.....	401
Royalty Agreement.....	10
Shares.....	3
	902
Cash Registered.....	\$14,330.10

TOTAL TAX RECEIVED

Amount paid on Registered assignments.....	\$14,330.10
Amount paid on assignments pending registration.....	398.75
Open Accounts.....	2,650.17
	<u>\$17,379.02</u>

In reviewing the foregoing information it will be noted that there were 196 Petroleum and Natural Gas Leases registered in the Department and for which no unearned increment tax was paid. This, to a very large degree, is accountable to the fact that employees of various oil companies acted as agents, which necessitated the assignment of the leases to the companies for no consideration.

Accounting Division

REPORT OF THE SECRETARY-ACCOUNTANT, J. W. PATRICK

The various statements that are a part of this report give in detail the collections and expenditures for the year. The following points are to be noted therefrom:

A.—Statement of Receipts from All Sources:

Gross Receipts from all sources amounted to \$7,752,823.80 as against \$6,196,130.56 for 1946-47, an increase of \$1,556,693.24.

Net Receipts from all sources amounted to \$6,537,944.04 as against \$5,194,729.63 for 1946-47, an increase of \$1,343,214.41.

There was an increase of refunds from \$1,001,400.93 in 1946-47 to \$1,214,879.76 in 1947-48 amounting to \$213,478.83.

In addition to ordinary refunds such as overpayments, applications not granted, etc., there were the following:

80% of monies received on crop share from Cultivation Leases amounting to \$229,611.10 refunded to Taxing Authorities.

80% of monies received on crop share from Agricultural Leases amounting to \$16,367.50 refunded to Taxing Authorities.

25% of monies received on Grazing Leases and Permit Taxes amounting to \$22,607.35 refunded to Taxing Authorities.

All Tax Recovery monies are refunded to the Improvement District or Municipal District in which the lands are situated. An amount of \$23,505.71 was refunded to these districts during the year. This represents the applied revenue from March 1st, 1947, to January 31st, 1948. Unapplied receipts and applied revenue for the months of February and March, 1948, have been carried forward in Suspense and will be refunded in due course.

B.—Statement of Receipts Income Account:

A surplus of \$3,681,496.80 on Income Account was shown for 1947-48, as compared with \$2,660,970.69 for the previous year, an increase of \$1,020,526.11.

Net Revenue amounted to \$5,050,737.39 as against \$3,880,425.42 for 1946-47, an increase of \$1,170,311.97. Main increases and decreases were as follows:

	Increase	Decrease
GAME ACT:		
Fur Tax.....		\$ 16,189.37
LANDS AND GRAZING:		
Grazing Permits, Fees, Dues, etc.	\$ 11,792.62	
Agricultural Lease Fees, etc.....	11,073.54	
Land Patent Miscellaneous.....	29,486.93	
MINERAL TAXATION ACT.....	116,998.14	
MINING LANDS:		
Coal Fees, Rental, etc.....	9,769.13	
Coal Royalty.....		24,932.03
Petroleum and Natural Gas Fees, Rentals, etc.....	434,583.77	
Petroleum and Natural Gas Royalties.....	228,951.77	
SCHOOL LANDS:		
Miscellaneous Sale of Improvements.....		11,419.27
Interest on Sales.....		21,653.22
Timber Fees, Dues, etc.....	15,672.73	
Petroleum and Natural Gas, Fees, Rentals, etc.....	35,745.53	
Petroleum and Natural Gas Royalties.....	36,078.17	
TIMBER:		
Timber Rentals, Fees, Dues, etc.....	279,825.74	
UNEARNED INCREMENT TAX.....		20,219.64
REIMBURSEMENT OF SALARIES AND EXPENSES.....	58,272.01	
MISCELLANEOUS.....		3,524.58
NET REVENUE INCREASE.....		1,170,311.97
	<u>\$1,268,250.08</u>	<u>\$1,268,250.08</u>

D.—Statement of Expenditure:

Expenditure on Income Account for the year amounted to \$1,369,240.59, an increase of \$149,785.86.

The largest increase was in the payment of Bounties for the destruction of pests. A total of \$173,785.94 was paid out during the year, an increase of \$135,563.44 over the previous year.

Salaries showed an increase of \$68,458.98 due to the general adjustment made on all salaries.

ACCOUNTS BRANCH RECORDS

A record of all Travelling Expenses by individuals is now maintained by the Branch. A record of the operating cost of each motor vehicle is also maintained.

These records should prove very useful in controlling expenditure and in the preparation of Estimates. They are loose-leaf and available to the Branch Heads at any time. A final statement for the year is forwarded to all Branch Heads.

The Accounts Branch took over the posting of all Vendor's accounts for Fish and Game Licenses and the accounts for both Fish and Game Vendors have been consolidated. These are machine-posted records.

The further increase in Revenue and Expenditure has meant increased work. The staff have worked very hard and the results of the year's work are quite satisfactory.

During the year the Accountant was assigned the personnel work of the Department and his position was reclassified to Secretary-Accountant.

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- B.—Statement of Receipts—Income Account.
- C.—Statement of Receipts—Capital Account.
- D.—Statement of Expenditure for the year ending March 31st, 1948.
- E.—Statement of Receipts—Agricultural Advances.
- F.—Statement of Receipts and Payments—Special Areas Trust Account.
- G.—Statement of Revenue and Expenditure—Special Areas Trust Account.
- H.—Balance Sheet as at March 31st, 1948—Special Areas Trust Account.
- I.—Statement of Receipts and Payments—Special Districts Trust Account.
- J.—Statement of Revenue and Expenditure—Special Districts Trust Account.
- K.—Balance Sheet as at March 31st, 1948—Special Districts Trust Account.
- L.—Statement of Receipts—Special Areas and Special Districts.
- M.—Statement of Net Receipts by Branches.
- N.—Statement of Receipts—School Lands.
- O.—Alberta School Lands Trust Fund Balance Sheet.
- P.—Alberta School Lands Sales Revenue Account.
- Q.—Statement of Receipts and Expenditures for Eighteen-Year Period, 1930-1948.
- R.—Statement of Receipts by Branches for Eighteen-Year Period, 1930-1948.

ACCOUNTING DIVISION

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STATEMENT A

STATEMENT OF RECEIPTS FROM ALL SOURCES

From April 1, 1947 to March 31, 1948

	Gross Receipts	Refunds	Net Receipts
Income Account.....	\$5,396,036.86	\$345,391.78	\$5,050,645.08
Capital Account.....	23,691.54	300.73	23,390.81
Reimbursement of Previous Year's Expenditure.....	23,585.33	.....	23,585.33
School Lands Trust Fund.....	107,404.85	96.25	107,308.60
Special Areas and Special Districts.....	857,818.35	11,764.60	846,053.75
Unapplied Receipts Carried Forward (Subject to Refund).....	.....	.....	.....
Suspense.....	1,227,450.93	831,082.94	396,367.99
Tax Recovery.....	33,334.00	23,934.88	9,399.12
Improvements.....	4,205.48	2,308.58	1,896.90
Purchase of Improvements on Agricultural Leases.....	375.00	.....	375.00
Purchase of Improvements on School Lands.....	75.00	.....	75.00
Land Patent Cultivation Crop Share.....	5,641.23	.....	5,641.23
Land Patent Agricultural Lease Crop Share.....	5,871.61	.....	5,871.61
School Lands Cultivation Crop Share.....	30,029.61	.....	30,029.61
Grazing, Rentals, Fees, etc.....	37,304.01	.....	37,304.01
	<u>\$7,752,823.80</u>	<u>\$1,214,879.76</u>	<u>\$6,537,944.04</u>

STATEMENT OF RECEIPTS—INCOME ACCOUNT

STATEMENT B

From April 1, 1947 to March 31, 1948

INCOME ACCOUNT:	Gross Receipts	Refunds	Net Revenue
FISHERIES ACT:			
Angling Permits.....	\$ 23,897.99	\$ 2,456.44	\$ 21,441.55
Boat Licenses.....	165.00	.....	165.00
Fish Royalty.....	19,571.70	217.91	19,353.79
Fishing Licenses.....	21,792.00	35.00	21,757.00
Miscellaneous.....	1,306.78	1.00	1,305.78
GAME ACT:			
Fur Tax (less commissions).....	91,746.65	1,728.18	90,018.47
Game Licenses.....	166,562.64	13,710.11	152,852.53
Registered Trap-Lines.....	28,450.00	60.00	28,390.00
Sale of Fur.....	2,870.76	726.33	2,144.43
Miscellaneous.....	858.62	.....	858.62
LANDS AND GRAZING:			
Agricultural Leases.....	35,218.97	18,053.49	17,165.48
Cultivation Rentals, Fees, etc.....	35,913.72	23,106.84	12,806.88
Fur Farm Rentals and Fees.....	431.41	15.00	416.41
General Sales Interest.....	763.74	.....	763.74
Grazing Rentals, Fees, etc.....	250,295.26	23,185.27	227,109.99
Hay Fees, Dues, etc.....	6,264.06	561.38	5,702.68
Improvement Collection Fees.....	1,294.02	.....	1,294.02
Surface Rentals.....	4,345.29	15.00	4,330.29
Miscellaneous.....	64,280.42	2,699.58	61,580.84
MINERAL TAXATION ACT:	474,172.09	337.11	473,834.98
MINING LANDS:			
Coal Mines Act Sundry Revenue.....	5,806.40	8.00	5,798.40
Coal Rentals, Fees, etc.....	118,328.67	542.50	117,786.17
Coal Royalty.....	261,565.36	10.50	261,554.86
Petroleum and Natural Gas, Fees, Rentals.....	715,340.80	7,840.00	707,500.80
Petroleum and Natural Gas Royalties.....	766,962.55	1,780.45	765,182.10
Miscellaneous Rentals, Fees, etc.....	32,722.77	25.00	32,697.77
SCHOOL LANDS:			
Administration of School Lands, Reimbursements	65,000.00	.....	65,000.00
Interest on Sales.....	27,822.72	71.84	27,750.88
Royalties, Leases, Rentals, etc.....	509,646.28	215,132.40	294,513.88
TIMBER:			
Timber Rentals, Fees, Dues, etc.....	1,561,922.71	30,767.92	1,531,154.79
Timber Miscellaneous.....	7,859.62	11.76	7,847.86
UNEARNED INCREMENT TAX:	17,404.11	25.09	17,379.02
MISCELLANEOUS:			
Casual.....	13,445.22	2,162.41	11,282.81
Reimbursements, Salaries and Expenses.....	59,329.67	1.27	59,328.40
Rental of Houses.....	1,992.00	48.00	1,944.00
Services and Supplies.....	139.61	16.00	123.61
Tax Recovery Office Fees.....	547.25	40.00	507.25
Total (carried to Statement A).....	5,396,036.86	345,391.78	5,050,645.08
Special Districts (carried to Statement E):			
Interest on 1937-39 Feed and Fodder Advances ..	27.52	.....	27.52
Interest on 1936-37 Seed Grain Advances.....	62.30	.....	62.30
Interest on 1938 Agricultural Advances.....	2.49	.....	2.49
TOTAL INCOME ACCOUNT.....	<u>\$5,396,129.17</u>	<u>\$ 345,391.78</u>	<u>\$5,050,737.39</u>

STATEMENT OF RECEIPTS—CAPITAL ACCOUNT

STATEMENT C

From April 1, 1947 to March 31, 1948

	Gross Receipts	Refunds	Net Revenue
Land Sales Principal.....	\$ 23,691.54	\$ 300.73	\$ 23,390.81

EXPENDITURE CLASSIFIED BY APPROPRIATIONS AND CHARACTER
FOR THE YEAR ENDED MARCH 31, 1948
INCOME ACCOUNT

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STATEMENT D

Service	1101 Minister's Office	1102 General Office	1103 Advisory Board	1106 Calgary Land Agency	1109 Peace River Land Agency	1113 Northern Alberta Forest District	1114 Crow's Nest-Bow Forest Reserve	1116 Clearwater Forest Reserve	1117 Brazeau-Athabasca Forest Reserve	1120 Cypress Hills Forest Reserve	1123 Petroleum and Natural Gas Division	1124 The Mines Act	1125 Supervision of Grazing	1127 Fire Fighting, General	1128 Postage	1129 Tree Nurseries	1132 Radio Communication	1135 The Game Act	1136 The Fisheries Act	1137 Destruction of Pests	1138 Grants to Taxing Authorities for 1947 re Mineral Tax Act	S.W. 19/1947-48 Eastern Rockies Conservation Board	Totals
Advertising.....	\$	\$ 2,122.27	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$ 2,122.27
Automobiles.....	326.94	8,155.26				10,296.87	1,578.07	248.40	1,426.07	816.68		512.37					326.58	1,104.22	7,492.95				32,284.41
Board.....														1,803.00									1,803.00
Books and binding.....	25.37	388.52										879.08											1,292.97
Bounties for destruction of pests.....																							173,785.94
Buildings and sites.....						3,896.06	777.66	169.05	1,545.14										284.00				0,671.91
Cinema and photographic supplies.....		2,419.96																56.56					2,470.52
Equipment.....	626.89	2,607.30		18.59		6,639.49	998.25	741.64	730.55	75.00		909.50	7.25			35.28	3,478.99	493.42	4,811.87				22,174.02
Examinations.....												820.47											820.47
Feed and seed.....						136.90	299.45	37.50	126.90	92.50			224.70	50.45		53.33	5.92		3,392.48				4,420.13
Fees and commissions.....		114.03		1.79	20.49	118.90	17.54	8.40	1.73			3.59	7.04					16.33	35.79				345.63
Fencing.....													1,418.65										1,418.65
Freight, express and cartage.....	.50	203.74		23.57	45.04	1,488.13	228.62	306.22	332.17	217.01		22.34	53.73	1,519.55		124.84	654.35	620.32	029.41				0,409.54
Grants.....																					30,459.75		30,459.75
Heating, lighting and power.....						715.91	249.07	24.68	129.92					240.19			592.67	41.47	1,397.60				3,391.51
Hospital and medical supplies.....														102.40									102.40
Lands.....													3,478.00										3,478.00
Laundry and cleaning.....																			25.90				25.90
Legal fees and expenses.....		615.66																					615.66
Miscellaneous expenses and supplies.....		265.58				740.32	405.41	336.23	134.42	6.45		139.80	173.06	110.10		484.09	1,325.78	1,294.09	904.72				0,320.05
Newspapers and periodicals.....	24.00	66.06		2.00	2.00				10.45			22.51					14.00	2.00	4.16				147.18
Postage.....	80.00	109.44		821.02	690.18	688.27	265.00	139.00	200.00	25.00		102.65	7.00				60.00	196.38	74.48				10,053.07
Printing, stationery and office supplies.....	65.45	23,670.11		289.85	298.67	467.61	84.90	64.87	104.27			1,321.28				3.07	358.33	2,825.14	214.20				29,767.75
Rates, rentals and insurance.....	80.45	1,302.99			8.00	1,627.63	413.23	143.57	260.11	71.09		211.56	138.04	6,608.12			866.69	788.95	1,679.45				14,199.88
Repairs and replacements.....	222.53	5,643.04		91.69	21.11	5,829.92	3,043.39	1,085.12	1,871.38	244.91		370.89	1,133.69				4,484.74	4,613.74	5,453.51			5.75	34,115.41
Salaries.....	8,040.00	327,802.39		20,273.33	15,852.28	112,036.51	54,920.57	29,097.02	39,483.21	3,595.00		41,896.57					40,113.45	39,039.57	53,937.87		3,500.00		789,587.77
Special services.....											34,615.30												34,615.30
Surveys.....		1,033.50																	3,827.95				4,801.45
Telegrams and telephones.....	886.00	2,672.34		193.30	63.31	76.98	217.38	91.00	87.69			724.22	40.58				23.62	982.09	812.07				6,870.58
Travelling expenses.....	478.82	19,686.43	487.47	44.35	18.00	27,795.21	3,994.90	2,427.89	3,786.20	401.60		6,885.68	696.11	264.88			1,678.50	8,650.80	18,816.58		115.05		96,228.47
Wages.....						4,319.68	4,559.22	3,016.94	3,626.54				8,814.28	7,764.57		2,993.16	136.65	992.61	5,490.75				41,714.40
TOTAL: Income Account.....	\$ 10,856.95	\$ 398,878.62	\$ 487.47	\$ 21,759.49	\$ 17,019.08	\$ 176,874.39	\$ 72,052.86	\$ 37,937.53	\$ 53,856.73	\$ 5,545.24	\$ 34,615.30	\$ 54,822.51	\$ 16,192.13	\$ 18,463.26	\$ 13,195.25	\$ 3,693.77	\$ 54,120.27	\$ 61,717.69	\$ 109,285.74	\$ 173,785.94	\$ 30,459.75	\$ 3,020.80	\$1,309,240.59

CAPITAL ACCOUNT

Service	1182 Abandonment of Mining Properties	S.W. 59/47-48 Breaking land pursuant to agreement be- tween the Pro- vince of Alberta and Lassiter's Ltd.	Totals
Automobiles.....	\$	\$ 2,079.61	\$ 2,079.61
Contract labour.....	99.00		99.00
Equipment.....		5.75	5.75
Fees and commissions.....		1.00	1.00
Freight, express and cartage.....		2.00	2.00
Miscellaneous expenses and supplies.....		.75	.75
Postage.....		1.00	1.00
Rates, rentals and insurance.....		54.63	54.63
Repairs and replacements.....		298.64	298.64
Salaries.....		410.00	410.00
Special services.....		1,000.00	1,000.00
Surveys.....		823.62	823.62
Telegrams and telephones.....		2.91	2.91
Travelling expenses.....		1,289.16	1,289.16
TOTAL: Capital Account.....	\$ 99.00	\$ 5,969.07	\$ 6,068.07

ACCOUNTING DIVISION

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STATEMENT E

STATEMENT OF RECEIPTS—AGRICULTURAL ADVANCES

From April 1, 1947 to March 31, 1948

	Principal	Interest
1937-38 Feed and Fodder.....	\$ 1,963.65	\$ 16.18
1938-39 Feed and Fodder.....	110.76	11.34
1936 Seed Grain.....	1,717.75	13.08
1937 Seed Grain Implemented Loan Account	6,675.11	49.22
1938 Agricultural Advances Implemented Loan Account	9,312.81	2.49
To Statement L.....	<u>\$19,780.08</u>	<u>\$ 92.31</u>

STATEMENT F

SPECIAL AREAS TRUST ACCOUNT

INTERIM STATEMENT OF RECEIPTS AND PAYMENTS

FOR THE YEAR ENDED MARCH 31, 1948

Cash in Bank April 1st, 1947 \$457,077.01

RECEIPTS:

Bank Interest.....	\$ 2,760.74	
Cultivation Fees and Rentals.....	79,168.04	
Grazing Fees and Rentals.....	136,263.76	
Irrigation Lease Fees and Rentals.....	75.76	
Miscellaneous.....	3,910.36	
Miscellaneous Sale of Improvements.....	20,139.09	
Sales Principal and Interest.....	2,252.57	
Hospital Debentures.....	6,529.60	
Recoverable Advances (1946-47).....	45.62	
Accounts Rec. Equipment Rentals (1946-47).....	22,478.26	
		<u>273,623.80</u>

\$730,700.81

PAYMENTS:

Operating Expenses:		
Appropriation 1134 (A), 1946-47	\$ 58,637.51	
Building Maintenance	1,629.89	
Advertising.....	283.75	
Advisory Board Meetings	1,175.25	
Payment to Special Districts.....	100,000.00	
Cessford Irrigation Project	1,073.99	
Community Pastures	9,829.67	
Dams and Dugouts	2,654.26	
Freight, Express and Cartage.....	13.32	
Grass Seed	796.76	
Insurance	4,964.21	
Stationery and Office Supplies	230.45	
Telephone and Telegraph.....	56.24	
Travelling Expenses.....	5,641.51	
Wood Lot Tree Project	40.37	
		<u>187,027.18</u>
Less reimbursement of Expenditure		<u>1,429.39</u>

185,597.79

CAPITAL PAYMENTS:

Hanna Houses.....	\$ 9,106.46	
Lomond Houses.....	12,916.27	
Meter Deposits.....	20.00	
New Youngstown Shop	86,703.52	
Purchase of Equipment.....	63,851.24	
Purchase of Real Estate.....	3,105.26	
Youngstown Home Bedding and Linen.....	1,532.09	
Youngstown Home Crockery and Dishes.....	111.88	
Youngstown Home Cutlery.....	131.54	
Youngstown Home Furnishings.....	3,725.93	
Youngstown Home Garden Equipment.....	12.31	
Youngstown Home Hospital and Medical Equipment	54.68	
Youngstown Home Janitors' Equipment	59.80	
Youngstown Home Kitchen Equipment.....	905.15	
Youngstown Home Miscellaneous Equipment.....	113.92	
Youngstown Home Office Equipment.....	292.84	
Youngstown Home Recreation Equipment.....	54.19	
Youngstown Houses.....	2,732.57	
Youngstown Home.....	38,461.18	
Youngstown Barn (large).....	1,683.87	
Youngstown Barn (small)	1,021.43	
Recoverable Advances.....	2.25	
Accountable Advances.....	100.00	
		<u>228,698.38</u>

414,296.17

414,296.17

Cash in Bank March 31st, 1948..... \$316,404.64

STATEMENT G

SPECIAL AREAS TRUST ACCOUNT
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1948

REVENUE	
Grazing rentals	\$136,263.76
Cultivation rentals	79,168.04
Equipment rentals	27,872.07
Sale of improvements	20,139.09
Bank interest	2,760.74
Land sales, principal and interest	2,252.57
Miscellaneous	4,249.08
	<u>\$272,705.35</u>
EXPENDITURE	
Salaries	\$ 69,786.06
Depreciation	32,004.40
Community pastures	9,804.82
Travelling expenses	5,769.01
Insurance	4,964.21
Maintenance of buildings	1,629.89
Advisory Board expenses	1,175.25
Cessford irrigation project	1,173.99
Grass seed	796.76
Miscellaneous	679.28
	<u>\$127,783.67</u>
Surplus for the year ended March 31, 1948	\$144,921.68

STATEMENT H

SPECIAL AREAS TRUST ACCOUNT
BALANCE SHEET AS AT MARCH 31, 1948

ASSETS	
Cash in bank	\$316,404.64
Accounts Receivable:	
Special districts	\$ 27,872.07
Employees' advances	100.00
Meter deposits	20.00
	<u>27,992.07</u>
Advances Receivable:	
Special districts	\$100,000.00
Hospital districts, secured	170,383.36
	<u>270,383.36</u>
Property and Equipment:	
New Youngstown shop, at cost	\$127,737.94
Youngstown Old Folks' Home, at cost	111,907.78
Buildings, general, less depreciation	44,422.12
Fences, less depreciation	11,238.80
Road machinery, trucks, tractors, shop equipment, etc.,	
less depreciation	178,597.71
Furnishings and equipment, Youngstown Old Folks' Home, at cost	10,443.93
Office equipment, less depreciation	4,291.12
	<u>488,639.40</u>
	<u>\$1,103,419.47</u>
LIABILITIES	
Accounts Payable:	
Provincial Treasurer	\$ 69,786.06
Special districts	1,918.10
Sundry creditors	33,748.63
	<u>\$105,452.79</u>
Surplus:	
Balance—April 1, 1947	\$953,979.88
Add: Buildings and fences recovered, net	1,532.64
	<u>\$955,512.52</u>
Deduct: Adjustments with respect to prior years:	
Government of the Province of Alberta,	
compromise settlement	\$100,000.00
Sundry adjustments	2,467.52
	<u>102,467.52</u>
	<u>\$853,045.00</u>
Add: Surplus for the year ended March 31, 1948	144,921.68
	<u>997,966.68</u>
	<u>\$1,103,419.47</u>

ACCOUNTING DIVISION

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STATEMENT I

SPECIAL DISTRICTS TRUST ACCOUNT
INTERIM STATEMENT OF RECEIPTS AND PAYMENTS
FOR THE YEAR ENDED MARCH 31, 1948

Cash in Bank April 1, 1947.....		\$204,382.31	
RECEIPTS:			
Special Districts Tax	\$407,351.87		
Grant Department Public Works.....	44,596.09		
Bank Interest.....	■ 353.75		
Transfer from Special Areas	100,000.00		
Hall Tax Commission.....	294.69		
Miscellaneous Revenue.....	1,124.48		
School Lands Crop Share.....	10,142.03		
Accountable Advances, 1946-47.....	44.24		
	<u>563,907.15</u>		
		<u>563,907.15</u>	
		768,289.46	
PAYMENTS:			
Operating Expenses: School Requisitions.....	\$215,571.36		
MAINTENANCE OF ROADS:			
Wages.....	\$ 56,288.96		
Roadwork	67,095.06		
Machinery Repairs.....	37,596.30		
Gas and Oil	18,416.16		
Diversions.....	35.96		
Youngstown Shop.....	12,911.65		
	<u>192,344.09</u>		
Less reimbursement of expenditure.....	4,436.87		
	<u>187,907.22</u>		
		187,907.22	
Hospital Requisitions.....		56,400.30	
RELIEF AND PUBLIC WELFARE:			
Hospital Contracts.....	\$ 875.00		
Hospital Fees.....	14.14		
Election of hosp. repres.	99.98		
Blind Pensions.....	126.00		
Child Welfare.....	917.18		
Direct Relief.....	9,281.90		
Doctors' Contracts.....	2,695.00		
Old Age Pensions.....	5,258.50		
Provincial Mental Hospital.....	1,590.00		
Provincial Training School	720.00		
Relief Inspections.....	2,451.01		
	<u>24,028.71</u>		
		24,028.71	
Provincial Treasurer Vote 1181 (B) Med. (1946-47).....		21,373.99	
YOUNGSTOWN HOME:			
Boarding House Supplies.....	\$ 23.50		
Freight, Express and Cartage.....	6.33		
Heat, Light and Power	996.68		
Janitor's Supplies.....	93.96		
Miscellaneous Supplies.....	162.15		
Postage.....	.50		
Stationery and Office Supplies	52.41		
Recreation Supplies.....	2.35		
Telephone and Telegraph.....	254.31		
Travelling Expenses.....	563.52		
Wages.....	1,235.75		
	<u>3,391.46</u>		
		3,391.46	

DEPARTMENT OF LANDS AND MINES

Advertising.....	168.57		
Building Maintenance.....	470.55		
Cemeteries.....	118.00		
Freight, Express and Cartage.....	47.93		
Hamlets.....	144.76		
Insurance.....	1,480.53		
Land Titles.....	1,393.75		
Offices.....	4,269.75		
Posts and Weeds.....	74.75		
Postage.....	1,256.50		
Pounds.....	238.50		
Ratepayers' Meetings.....	31.00		
Stationery and Supplies.....	2,012.82		
Telephone and Telegraph.....	3,646.01		
Travelling Expenses.....	189.44		
	<u>15,542.86</u>		
		15,542.86	
		<u>524,215.90</u>	
			524,215.90
CAPITAL PAYMENTS:			
1946-47 Equipment Rental.....	22,478.26		
Accountable Advances.....	75.00		
Recoverable Advances 1946-47.....	45.62		
Purchase of Equipment.....	67.47		
Water Wells.....	13,940.62		
	<u>36,606.97</u>		
		36,606.97	
		<u>560,822.87</u>	
			560,822.87
Cash in Bank March 31st, 1948.....			<u>\$207,466.59</u>

STATEMENT J.

SPECIAL DISTRICTS TRUST ACCOUNT
STATEMENT OF REVENUE AND EXPENDITURE

REVENUE

1947 General tax levy.....	\$ 347,653.30
Penalties and costs added in 1947.....	33,097.93
	<u>\$ 380,751.23</u>
Province of Alberta road grant.....	44,596.09
School lands crop share.....	10,142.03
Bank interest.....	353.75
Miscellaneous.....	1,128.98
	<u>\$ 436,972.08</u>

EXPENDITURE

Maintenance of roads.....	\$ 234,621.15
1947 School requisitions.....	219,571.36
1947 Hospital requisitions.....	56,400.30
Relief and public welfare.....	26,696.20
Discounts allowed in 1947.....	10,428.15
Maintenance of offices.....	3,753.96
Youngstown Home operating expenses.....	3,646.97
Telephone and telegraph.....	3,645.56
Depreciation.....	3,167.81
Stationery and supplies.....	1,702.15
Land Titles Office fees.....	1,388.00
Postage.....	1,256.50
Insurance.....	539.97
Miscellaneous.....	1,538.09
	<u>\$ 568,356.17</u>
Deficit for the year ended March 31, 1948.....	<u>\$ 131,384.09</u>

SPECIAL DISTRICTS TRUST ACCOUNT
BALANCE SHEET AS AT MARCH 31, 1948

STATEMENT K

ASSETS

Cash in bank.....		\$ 207,466.59
Taxes receivable.....		433,315.15
Accounts receivable:		
Advances on school requisitions.....	\$ 13,000.00	
Special areas.....	1,918.10	
Employees' advances.....	75.00	
Meter deposit.....	10.00	
		<u>15,003.10</u>
Property and equipment:		
Waterwells.....	\$ 27,101.58	
Equipment, less depreciation.....	6,642.11	
Buildings, less depreciation.....	5,020.67	
		<u>38,764.36</u>
		<u>\$ 694,549.20</u>

LIABILITIES

Accounts payable:		
Special areas.....	27,872.07	
Sundry creditors.....	17,069.52	
		<u>\$ 44,941.59</u>
Advance from special areas.....		100,000.00
Surplus:		
Balance, April 1, 1947.....	\$ 772,071.43	
Add: Sundry adjustments.....	14,249.82	
		<u>\$ 786,321.25</u>
Deduct: Cancellations of tax arrears.....	105,329.55	
		<u>\$ 680,991.70</u>
Deduct: Deficit for the year ended March 31, 1948.....	131,384.09	
		<u>549,607.61</u>
		<u>\$ 694,549.20</u>

Edmonton, Alberta,
August 5, 1948.

I have audited the books and records of the Special Districts Trust Account for the year ended March 31, 1948.

Tax revenues are based on the levy for the year ended December 31, 1947. Similarly, expenditures for school and hospital requisitions are for the year ended December 31, 1947.

Subject to the foregoing, I certify that, in my opinion, the above Balance Sheet is properly drawn up so as to show the true financial position of the Special Districts Trust Account as at March 31, 1948, according to the information and explanations given to me and as shown by the books of the Special Districts Trust Account, and the accompanying Statement of Revenue and Expenditure correctly sets forth the result of operations for the year ended at that date.

"C. K. HUCKVALE, C.A."

PROVINCIAL AUDITOR.

STATEMENT L.

STATEMENT OF RECEIPTS—SPECIAL AREAS AND SPECIAL DISTRICTS

FOR THE YEAR ENDED MARCH 31, 1948

	Gross Receipts	Refunds	Net Receipts
General Tax—Statement I.....	\$ 409,612.04	\$ 2,280.17	\$ 407,351.87
Social Service Tax.....	10,312.96	34.41	10,278.55
Reporting School Tax.....	1.42	.....	1.42
Hail Tax.....	1,143.39	.....	1,143.39
Total Tax Collections.....	\$ 421,069.81	\$ 2,294.58	\$ 418,775.23
Special Districts Collections— Less Taxes.....	156,260.59	.....	156,260.59
Statement I.....	\$ 156,555.28		
Less Hail Tax Commissions.....	294.69		
	<u>\$ 156,260.59</u>		
Special Areas Trust Receipts.....	260,589.30	9,443.76	251,145.54
Statement F.....	\$ 273,623.80		
Less Equipment Rentals.....	22,478.26		
	<u>\$ 251,145.54</u>		
Agricultural Advances—Statement E.....	19,898.65	26.26	19,872.39
	<u>\$ 857,818.35</u>	<u>\$ 11,764.60</u>	<u>\$ 846,053.75</u>

STATEMENT M.

STATEMENT OF NET RECEIPTS BY BRANCHES

FOR THE FISCAL YEARS ENDING MARCH 31, 1947 AND MARCH 31, 1948

	Fiscal Year Ending March 31, 1947	Fiscal Year Ending March 31, 1948
INCOME ACCOUNT:		
Fisheries Branch.....	\$ 66,603.75	\$ 64,023.12
Game Branch.....	299,089.85	274,264.05
Lands and Grazing Branch.....	274,869.40	331,170.33
Timber Branch.....	1,259,935.31	1,539,002.65
Mining Lands Branch.....	1,246,501.46	1,890,520.10
Mineral Tax.....	356,836.84	473,834.98
Unearned Increment Tax.....	37,598.66	17,379.02
School Lands.....	324,828.06	387,264.76
Miscellaneous.....	14,000.35	73,186.07
CAPITAL ACCOUNT:		
Land Sales Principal.....	21,425.34	23,390.81
TRANSFERRED TO OTHER DEPARTMENTS.....	3,932.17	23,585.33
SCHOOL LANDS TRUST FUND.....	143,103.52	107,308.60
SPECIAL DISTRICTS.....	402,211.98	575,035.82
SPECIAL DISTRICTS AGRICULTURAL ADVANCES.....	44,684.63	19,872.39
SPECIAL AREAS.....	258,421.76	251,145.54
UNAPPLIED RECEIPTS CARRIED FORWARD:		
Suspense.....	363,104.04	405,767.11
Improvements.....	1,763.90	1,896.90
Purchase of Improvements on Agricultural Leases.....	1,349.00	375.00
Purchase of Improvements on School Lands.....	3,319.53	75.00
Land Patent Cultivation Crop Share.....	3,983.73	5,641.23
Land Patent Agricultural Lease Crop Share.....	2,355.41	5,871.61
School Lands Cultivation Crop Share.....	37,258.85	30,029.61
Grazing Rentals, Fees, etc.....	27,552.09	37,304.01
	<u>\$5,194,729.63</u>	<u>\$6,537,944.04</u>

ACCOUNTING DIVISION

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STATEMENT N.

STATEMENT OF RECEIPTS—SCHOOL LANDS

FROM APRIL 1, 1947—MARCH 31, 1948

	Receipts	Refunds	Net Revenue
INCOME ACCOUNT:			
Interest on Sales.....	\$ 27,822.72	\$ 71.84	\$ 27,750.88
Grazing Rentals, Fees, etc.....	34,302.08	440.26	33,861.82
Hay Fees, Dues, etc.....	1,054.75	97.75	957.00
Cultivation Rentals, Fees, etc.....	264,826.96	198,995.84	65,831.12
Surface Rentals.....	371.50		371.50
Miscellaneous Leases.....	13,718.58	9,554.97	4,163.61
Timber Rentals, Fees, Dues, etc.....	65,792.49	5,614.58	60,177.91
Coal Rentals, Fees, etc.....	4,170.00	20.00	4,150.00
Coal Royalty.....	26,660.60		26,660.60
Petroleum and Natural Gas Fees and Rentals.....	53,410.15	409.00	53,001.15
Petroleum and Natural Gas Royalty.....	110,056.77		110,056.77
Miscellaneous.....	282.40		282.40
	<u>\$ 602,469.00</u>	<u>\$ 215,204.24</u>	<u>\$ 387,264.76</u>
TRUST ACCOUNT:			
School Land Sales Principal.....	107,404.85	96.25	107,308.60
	<u>\$ 709,873.85</u>	<u>\$ 215,300.49</u>	<u>\$ 494,573.36</u>

STATEMENT O.

ALBERTA SCHOOL LAND TRUST FUND

BALANCE SHEET—MARCH 31, 1948

As at March 31, 1948, the fund amounted to \$11,818,343.09
made up as follows:

Cash.....	\$	10,426.62
Accounts Receivable.....		3,236.52
Debentures of the Dominion of Canada:		
(a) Issued in settlement of the sum standing to the credit of the fund when the natural resources were transferred to the Province on October 1, 1930.....	\$	9,564,569.20
(b) Purchased by the Province since Oct. 1, 1930, from payments of principal on school land sales, book value....		2,015,295.45
		<u>11,579,864.65</u>
Unpaid principal on school land sales:		
(a) Not due.....	\$	59,605.49
(b) Due or in arrears.....		165,209.81
		<u>224,815.30</u>
		<u>\$11,818,343.09</u>

STATEMENT P.

ALBERTA SCHOOL LAND SALES—REVENUE ACCOUNT

FROM APRIL 1, 1947 to MARCH 31, 1948

Arrears Interest as at March 31, 1947.....	\$	37,727.50
Interest Charges.....		14,990.64
Interest Revenue.....	\$	27,750.88
Interest Written Off—Re Cancelled School Land Sales.....		3,363.47
Arrears Interest as at March 31, 1948.....		21,603.79
	<u>\$</u>	<u>52,718.14</u>
	<u>\$</u>	<u>52,718.14</u>

STATEMENT Q.

STATEMENT OF RECEIPTS AND EXPENDITURES
FOR 18 YEAR PERIOD 1930-1948

	Gross Receipts	Refunds	Net Receipts	Net Revenue on Income Account	Total Expenditures from Appropriations	Surplus on Income Account
1930-31.....	\$ 713,921.44	\$ 4,036.85	\$ 709,884.59	\$ 572,965.86	\$ 224,197.32	\$ 348,768.54
1931-32.....	1,135,415.64	6,407.90	1,129,007.74	1,032,307.57	690,448.51	341,859.06
1932-33.....	968,929.06	14,659.34	954,269.72	861,477.66	571,861.51	289,616.15
1933-34.....	1,068,650.48	16,772.56	1,051,877.92	937,095.80	462,407.61	474,688.19
1934-35.....	1,337,394.04	26,445.07	1,310,948.97	1,169,496.15	522,967.18	646,528.97
1935-36.....	1,310,890.21	47,051.55	1,263,838.66	1,152,475.78	504,544.57	647,931.21
1936-37.....	1,807,855.35	42,707.76	1,765,147.59	1,646,496.09	649,776.50	996,719.59
1937-38.....	1,789,276.20	68,941.29	1,720,334.91	1,606,156.50	521,564.72	1,084,591.78
1938-39.....	2,125,754.87	47,657.63	2,078,097.24	1,864,712.75	709,624.60	1,155,088.15
1939-40.....	2,629,622.16	72,133.44	2,557,488.72	1,944,098.82	708,605.34	1,235,493.48
1940-41.....	2,941,633.35	87,813.81	2,853,819.54	2,031,494.38	670,278.85	1,361,215.53
1941-42.....	3,967,861.44	499,420.02	3,468,441.42	2,593,485.14	847,553.32	1,745,929.82
1942-43.....	3,920,989.65	264,632.43	3,656,357.22	2,753,159.00	806,948.41	1,946,210.59
1943-44.....	4,504,913.73	416,578.27	4,088,335.46	2,821,784.73	861,907.08	1,959,877.65
1944-45.....	5,329,173.91	815,106.35	4,514,067.56	3,484,690.31	1,041,839.92	2,442,790.39
1945-46.....	5,316,087.01	949,402.77	4,366,684.24	3,403,473.33	1,100,558.26	2,302,915.07
1946-47.....	6,196,130.56	1,001,400.93	5,194,729.63	3,880,425.42	1,219,454.73	2,660,970.69
1947-48.....	7,752,823.80	1,214,879.76	6,537,944.04	5,030,737.39	1,369,240.59	3,681,496.80
	\$54,817,322.90	\$5,596,047.73	\$49,221,275.17	\$38,806,472.68	\$13,483,781.02	\$25,322,691.66

STATEMENT OF RECEIPTS BY BRANCHES
FOR 18 YEAR PERIOD 1930-1948

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STATEMENT R.

	Fisheries Branch	Game Branch	Lands and Grazing Branch	Unearned Increment Tax	Timber Branch	Mining Lands Branch	School Lands Branch	Mineral Tax	Miscellaneous	Land Sales Principal	Transferred to Other Departments	School Lands Trust Fund	Special Areas and Special Districts	Unapplied Receipts	Trust Accounts	Total Receipts
1930-31.....	\$ 4,827.54		\$ 74,996.87		\$ 121,085.59	\$ 372,055.86				\$ 6,705.39		\$ 113,749.01		\$ 15,009.29	\$ 1,455.04	\$ 709,884.59
1931-32.....	20,203.47		114,664.30		174,400.21	450,681.94	\$ 271,760.18		\$ 597.47	8,438.60		43,947.85		36,319.67	7,994.05	1,129,007.74
1932-33.....	15,827.10		114,389.01		123,707.36	391,813.38	215,327.81		413.00	7,522.85		40,065.81		26,737.56	18,465.84	954,269.72
1933-34.....	15,989.61		117,789.55		153,818.78	477,724.11	168,571.71		3,202.04	7,938.25		56,136.23		40,924.25	9,783.39	1,051,877.92
1934-35.....	19,949.89		115,599.20		225,063.17	477,296.68	327,787.36		3,799.85	9,765.20		80,132.43		40,316.83	11,238.36	1,310,948.97
1935-36.....	21,418.16		80,910.52		303,964.31	547,483.63	191,587.19		7,111.97	9,643.65		62,555.30		39,133.13	30.80	1,263,838.66
1936-37.....	24,317.93	\$ 117,989.34	111,610.39		331,036.53	757,247.46	293,763.48		10,530.96	10,867.23		55,799.89		51,803.38	181.00	1,765,147.59
1937-38.....			181,412.38		360,380.18	818,609.83	234,027.61		11,726.50	9,525.14		48,442.09		56,211.18		1,720,334.91
1938-39.....			159,415.63		298,434.00	1,032,502.10	358,197.11		16,163.91	8,593.93		86,322.26	\$ 68,299.49	50,168.81		2,078,097.24
1939-40.....			148,286.74		359,786.16	1,050,221.46	371,626.59		14,177.87	8,702.54	\$ 19,888.05	83,664.73	418,068.06	83,066.52		2,557,488.72
1940-41.....			125,544.35		612,175.84	945,333.30	337,777.81		10,663.08	9,511.39	851.49	76,589.34	633,745.14	101,627.80		2,853,819.54
1941-42.....	22,298.59	161,122.17	145,981.43		732,179.40	1,073,084.50	368,056.87	75,120.93	15,066.17	10,416.91	7.36	127,874.26	594,010.46	143,222.37		3,468,441.42
1942-43.....	21,975.49	157,280.99	161,376.91		774,172.70	1,215,777.93	311,612.10	94,364.68	16,331.46	11,100.94	200.00	145,341.71	543,062.32	203,759.99		3,656,357.22
1943-44.....	29,194.09	172,229.45	151,059.84		843,106.86	1,112,506.30	395,325.32	102,075.15	16,267.66	15,810.92	103.12	292,923.42	674,346.65	283,386.70		4,088,335.46
1944-45.....	33,264.10	185,638.47	220,599.44		843,680.79	1,663,316.88	420,062.24	92,783.29	25,225.25	22,125.48	78.30	349,104.99	445,110.94	213,077.37		4,514,067.56
1945-46.....	41,318.68	226,133.25	286,725.61	4,848.43	1,003,395.03	1,360,104.48	299,800.41	160,126.13	20,909.94	18,252.17	813.77	180,555.66	468,393.63	294,226.61		4,365,603.80
1946-47.....	66,603.75	299,089.85	274,869.40	37,598.66	1,259,935.31	1,246,501.46	324,828.06	356,836.84	14,000.35	21,425.34	3,932.17	143,103.52	705,318.37	440,686.55		5,194,729.63
1947-48.....	64,023.12	274,264.05	331,170.33	17,379.02	1,539,002.65	1,890,520.10	387,264.76	473,834.98	73,186.07	23,390.81	23,585.33	107,308.60	846,053.75	486,960.47		6,537,944.04
	\$ 401,211.52	\$ 1,593,747.57	\$ 2,916,401.90	\$ 59,826.11	\$10,059,324.87	\$16,882,781.40	\$ 5,277,376.61	\$ 1,355,142.00	\$ 259,373.55	\$ 219,736.74	\$ 49,459.59	\$ 2,093,617.10	\$ 5,396,408.81	\$ 2,606,638.48	\$49,148.48	\$49,220,194.73

Registration Division

REPORT OF THE REGISTRAR, C. B. KENWAY

One usually approaches the writing of the annual report with mixed feelings, accompanied by varied expletives. This report, however, is written with a sense of relief, in the knowledge that the post-war turbulence of the previous year, when everything seemed abnormal throughout the office, has rapidly subsided to a more normal pattern.

The incoming and outgoing mail provides a good barometer of the amount of business transacted. The mail figures for the past year are given in Table 1.

TABLE 1

NUMBERS OF LETTERS RECEIVED AND MAILED FOR THE YEAR 1947-48 IN
COMPARISON WITH THE PREVIOUS YEAR 1946-47

Month	Letters Received		Letters Mailed		Total	
	1946-47	1947-48	1946-47	1947-48	1946-47	1947-48
April.....	19,722	17,024	27,701	22,733	47,423	39,760
May.....	23,142	16,664	27,740	25,298	50,882	41,962
June.....	25,095	16,564	25,960	24,935	51,055	41,499
July.....	36,405	16,395	22,377	21,407	58,782	37,802
August.....	19,957	13,099	23,290	19,109	43,247	32,208
September.....	15,748	16,011	56,074	48,265	71,822	64,276
October.....	18,404	14,655	49,093	54,768	67,497	69,423
November.....	31,406	15,378	21,193	25,118	52,599	40,496
December.....	16,107	17,822	25,372	22,468	41,479	40,290
January.....	19,841	18,743	28,595	28,590	48,436	47,333
February.....	28,544	14,507	34,206	31,467	62,750	45,974
March.....	19,648	18,710	36,611	25,569	56,259	44,279
Total.....	274,019	195,575	378,212	349,727	652,231	545,302
Monthly Av.....	22,835	16,298	31,518	29,144	54,353	45,442

The above table shows a marked reduction in the incoming mail. If one will refer to earlier reports it will be found that last year's volume is greater than the mail received in 1944 and less than in 1945. Further, if the incoming mail for the past year were plotted on the graph shown in the 1946-47 report, the past year would correspond closely with the two lower lines, the incoming mail for 1944 and 1945. Although the volume may recede more in the coming year, the abnormal condition of the previous year is past.

RECORDS

The Records section's work has increased considerably over the past few years. More requests for standings would indicate that more attention is being paid to the standing in the township records before disposition. More reservations of land are being entered for various and specific purposes. For example, the Forestry made 36% more requests to place land under reservation, four hundred and eighty-nine being received last year against three hundred and fifty-two for 1946-47. At the present time, one person is devoting practically all his time to the recording of Forestry work.

Twenty-five township registers were transcribed into loose-leaf form. A number of the old registers bordering unsurveyed areas included many useless pages, and in these cases two of the old registers have been combined into one of the new, reducing the number of registers from 228 to 217.

There were 517 assignments registered during the fiscal year, roughly 9% increase over the previous year.

Eight hundred and seventy-eight notifications for patent and innumerable receipts passed through the Records section for checking purposes only.

FILING

Work in the Filing section has proceeded quite satisfactorily. Although there was a marked decrease in the amount of mail received, the additional time provided by the decrease allowed the section more time in checking, making changes in the Kardex and file records. Many of these changes were the result of exchanges, such as Veterans' Agricultural Leases on School land being changed to Provincial land. Considerable time was spent in the more frequent splitting of files to provide space in overcrowded filing cabinets.

Although there are 320 active filing cabinets in this section, more cabinets are needed. File splitting, repairing, checking, etc., have been carried as spare time jobs up to the present. However, the time is fast approaching when one person will have to devote his full time to this type of work.

As mentioned in last year's report, the file record books are in very poor condition and should be transcribed immediately to loose-leaf binders.

The same number of Recordak films were exposed and checked during the past year as in the previous year, namely, 199.

The number of new files opened is about 10% greater than the previous year. Marked increases are noted in the General Lands and Mining Lands files and a substantial decrease in the Timber Lands files. These differences are shown in Table 2.

TABLE 2
NEW FILES OPENED FOR THE YEARS 1946-47 AND 1947-48 WITH THE TOTAL
NUMBER OF FILES AS AT MARCH 31st, 1948

Kind of File	1946-47	1947-48	Total
General Lands.....	3,953	5,393	113,464
Lands Personal	988	1,297	3,836
Grazing Land.....	350	295	10,238
School Land.....	701	199	13,586
Right of Entry.....	34	54	185
Cabin Files.....	141	47	512
Timber Land.....	1,150	620	10,712
Timber Personal	1,630	1,185	5,693
Mining Land	1,220	1,960	41,386
Mining Land (S.L.).....	13	14	3,219
M.L. License Files.....	15	33	124
M.L. Company Files.....	6	18	1,017
M.L. General.....	13	14	57
M.L. Inc. Tax.....	5	5	10
M.L. Deposits.....	0	100	100
Total.....	10,219	11,200	204,139

The writer spent the greater part of his time on the Youngstown project, being away from the office for a total of 71 days, entailing over 15,000 miles of driving.

The staff individually and collectively has worked faithfully and well, and it is with a deep sense of gratitude that the writer wishes to acknowledge here his appreciation of their co-operation and loyalty.

Special Areas Administration

Field crops were light again in the Special Areas for the year under review. Although some sections harvested an average crop, other parts of the Areas had a low yield of grain owing to subnormal precipitation and dry hot winds. Slight damage was caused by cut-worms, wireworms and grasshoppers, the main factor being drouth, which also resulted in a light crop of hay and feed. Considerable moisture fell during the late summer, delaying the harvesting and threshing. In a few cases threshing was not completed when the severe weather set in.

Feed supplies were ample for an average winter, but owing to the fact that the severe weather set in about the first of November and continued until late in the spring, with very heavy snow and blocked roads, some small losses were experienced by stockmen because of shortage of feed and inability to get their stock to market.

The great need for some extended system of water conservation to insure sufficient feed for wintering and finishing stock and for stock watering purposes cannot be over-emphasized. Large acreages of these short grass lands lend themselves to the summer pasturing of stock but are not so dependable for the growing of winter feed.

In co-operation with our District Agriculturist, Mr. Walker, the Department of Agriculture held several field days throughout the area at the following points: Jenner, Square Deal, Cereal, Sedalia and Craigmyle.

These meetings were well attended, there being an average of well over a hundred at each meeting.

The Agricultural Short Course, held at Hanna, was a real success, there being over 300 in attendance.

The grass seed crop was light this year. We harvested 10,000 pounds of Crested Wheat Grass Seed and purchased a quantity of Crested Wheat and Brome Seed, which was taken up by farmers under our re-grassing policy on Provincial Lands.

Beef Calf Feeding Clubs were organized at Craigmyle, Hanna, Veteran and Consort. Last year's clubs held shows and judging contests in their local towns, then trucked their calves to Drumheller for show and sale by auction. They received good prices and awards.

Water wells have been drilled within the hamlets at the following points, with sufficient supply of water obtained for domestic use: Cavendish, Buffalo, Iddesleigh, Pollockville, Sunnynook, Scotfield, New Brigden, Kirriemuir, Altario and Naco.

A considerable number of dams and dugouts were completed again this year throughout the area. With the assistance of the P.F.R.A., residents have been taking advantage of engaging large outfits, who are making a business of this type of work.

The Cessford Irrigation Project was in operation again this year, with good results being obtained.

The Bartman Dam was filled to capacity by the spring run-off.

GRAZING RESERVES (HEAD TAX PASTURES) IN SPECIAL AREAS

Name of Reserve	Area	Stock Grazing Capacity
Buffalo-Atlee Community Pasture.....	54,290.00 Acres	2,172 Head
Bull Pound Community Pasture	24,960.00 Acres	998 Head
Lomond Community Pasture.....	53,700.00 Acres	2,148 Head
Remount Community Pasture	51,200.00 Acres	2,048 Head
Sounding Creek Community Pasture.....	44,100.00 Acres	1,764 Head
Majorville Community Pasture	32,120.00 Acres	1,284 Head

GRAZING LEASES HANDLED BY ASSOCIATIONS OR GRAZING GROUPS

Under Lease	Area	Stock Grazing Capacity
Beautyland Grazing Association.....	6,431.30 Acres	258 Head
Big 4 Lease Association	1,120.00 Acres	44 Head
Deimuth Lease Association.....	1,477.96 Acres	60 Head
Craig Lake Grazing Group	2,070.20 Acres	104 Head
Fertility Grazing Group.....	6,342.91 Acres	318 Head
Forks Grazing Association.....	9,110.30 Acres	332 Head
Garden Plain Grazing Group	4,631.00 Acres	232 Head
Lonebutte Grazing Association.....	10,088.07 Acres	404 Head
Round Lake Grazing Association.....	4,593.00 Acres	230 Head
Scotfield Grazing Group.....	7,878.00 Acres	314 Head
Sheerness Grazing Group.....	14,376.72 Acres	576 Head
United Four Community Group.....	2,023.76 Acres	82 Head

SPECIAL AREAS GRAZING LEASES

Leases and Area as at April 1st, 1947.....	1,339		1,906,228.91
Decrease by withdrawal.....		26,052.92	
Cancellations	120	193,366.14	219,419.06
	1,219		1,686,809.85
Increase to existing leases		60,281.89	
New Leases issued.....	319	403,018.82	
Reinstated	3	5,858.74	469,159.45
	1,541		2,155,969.30
Leases issued to March 31st, 1948		2,016	2,770,183.00
Cancelled to March 31st, 1948.....		475	614,214.00
*Existing Leases as at March 31st, 1948.....		1,541	2,155,969.00

*The areas of Reserves under lease are included in total area of leases in force.

Road Construction

Road construction and repair for the period consisted of 10 miles gravelled, 96 miles of elevated road, 123 miles heavy blade grade, 49 miles standard blade and 35 miles light blade grade in addition to 89 miles of road re-built by carryscraper work, making a total of 402 miles.

One new bridge was piled and entirely re-built. A large number of culverts were installed and bridges repaired.

2,770 miles of roads were maintained and a considerable amount of snowplowing done. In addition to the above the streets were gravelled in the hamlets of Compeer, Altario and Sibbald.

An amount of \$29,222.67 was worked out by residents on local roads.

As our responsibility for the construction and maintenance of roads, bridges and culverts becomes more extensive, we have found it necessary to extend our shops and shop equipment to be enabled to handle this work. Consequently, we have purchased a drill hall, which was located at DeWinton.

This building is now under the process of re-construction and will be completed as a work shop where almost all our work of this nature can be done. This building is located at Youngstown, our Public Works centre.

As intimated in our last report, the agricultural building at Youngstown is now undergoing thorough remodeling and re-conditioning as a home for the aged and dependent male residents. When completed, this building will house some seventy to eighty guests in comfort.

	Hay Permits		Grazing Permits Provincial Lands		Grazing Permits School Lands		Cultivation Permits Area			Head Tax Permits			Re-Grassing Permits	
	No.	Tons	No.	Acres	No.	Acres	No.	Broken	Unbroken	No.	Cattle	Horses	No.	Acres
Berry Creek-Sullivan Lake	28	550	120	51,210.41	87	37,806.99	122	8,489	6,425.54	126	3,975	153	47	4,973
Sounding Creek	39	757	246	140,661.30	157	82,065.62	176	38,897	14,504.93	46	953	9	38	2,025
Neutral Hills	33	516	358	152,968.28	197	83,966.88	78	11,432	5,837.49	7	201	0	44	2,677
Bow West	0	0	44	71,390.28	76	30,733.55	64	10,906	4,694.66	115	1,786	104	8	550
TOTALS	100	1,823	768	416,230.27	517	234,573.04	430	39,205	31,462.62	294	6,915	266	137	10,225

